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OILSEEDS SECTOR PROFILE

JANUARY 1994

FOREWORD

The present document is an updated version of the *Oilseeds Sector Profile*, first released in January 1991. The main objective of this publication is to give the reader a general overview of the Canadian oilseeds industry from production to processing and of the marketing conditions prevailing in the international market for oilseeds and oilseed products. While this is a snapshot, the authors also intend to show the main problems and opportunities facing the sector, as well as its likely future developments.

Additional information is available on request. The information was made available to the public through the *Oilseeds Sector Profile* and the *Oilseeds Sector Profile* is available to the public through the *Oilseeds Sector Profile*.

OILSEEDS SECTOR PROFILE

Prepared by the
Markets and Industry Services Branch
Agriculture Canada
930 Carling Avenue
Ottawa, Ontario
K1A 0C5

**International Markets Bureau
Markets and Industry Services Branch
Agriculture Canada
930 Carling Avenue
Ottawa, Ontario
K1A 0C5**

Oilseeds, which are the seeds of oil-producing plants, are a major source of vegetable oil and meal. They are used in a wide variety of products, including food, feed, and industrial uses. The oilseeds sector is a major part of the Canadian economy, and its products are exported to many countries. This profile provides a general overview of the sector, including production, processing, and marketing conditions.

Ottawa, January 1994

JANUARY 1994

FOREWORD

The present document is an updated version of the Oilseeds Sector Profile released in January 1991. The main objective of this publication is to give the reader a general overview of the Canadian oilseeds industry from production to processing and of the marketing mechanisms that offer competitive, high quality products to domestic and foreign customers. While mostly descriptive, the Profile also intends to briefly outline the main problems and constraints facing the sector, as well as to identify future opportunities.

Additional information is available on request. The International Markets Bureau, Oilseeds Division, has surveys on the edible oil sector of selected countries, mission reports and a statistical journal, *Fats & oils in Canada, Annual Review*. These documents can be obtained by writing to:

Oilseeds Division
International Markets Bureau
Markets and Industry Services Branch
Agriculture Canada
930 Carling Avenue
Ottawa, Ontario
K1A 0C5


Telephone: (613) 996-8324
Facsimile: (613) 943-1905

Other excellent publications on specific subjects can be obtained through the various industry associations listed in Appendix B of the document.

Finally, thanks are due to the many persons and institutions that, with their advice and information, assisted in the preparation of the Profile. In particular, special appreciation goes to Barbara J. Bergh, of the Canadian Oilseed Processors Association, who prepared the section on the Processing Subsector. Acknowledgment is given for the contributions of the Canola Council of Canada, The Ontario Soybeans Growers' Marketing Board and the Flax Council of Canada.

Ottawa, January 1994

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A INTRODUCTION

The Canadian oilseeds sector can be divided into three distinctive components:

- » The seed production subsector covering farm production and farm storage;
- » The processing subsector covering crushing, refining and producing oils, protein meals and finished products; and

- » The marketing subsector covering trade, distribution, exporting and hedging.

Corn oil and its secondary products are produced in Canada only in relatively small quantities (as a by-product of the corn starch industry); therefore, they are not included in this profile.

B THE SEED PRODUCTION SUBSECTOR

In order of importance, the main oilseed crops produced in Canada are canola, soybeans, flaxseed, sunflowerseed, mustardseed and safflowerseed. (Table 1). In the late 1980's, two additional cultivars were introduced into the Canadian oilseed configuration: Linola, an amber coloured flaxseed specifically designed for human consumption, and Sunola, a dwarf sunflower suitable for the dry Prairie climate.

Crop production in Canada is regionalized. In Ontario, soybeans are grown almost exclusively for crushing with small amounts for food use. In Manitoba, Québec and Maritime Canada, some soybeans are grown and roasted for whole bean livestock feeding. Canola (spring types), flaxseed (including Linola), sunflower (oil and confectionary varieties) and mustard seed are grown, mainly, in the three Prairie prov-

**TABLE 1
CANADIAN OILSEED PRODUCTION BY PROVINCE**

| | AREA in HECTARES | | | | | YIELD IN KG/HA | | | | | PRODUCTION IN TONNES | | | | |
|-----------------------|------------------|-----------|-----------|-----------|-----------|----------------|-------|-------|-------|-------|----------------------|-----------|-----------|-----------|-----------|
| | 1989 | 1990 | 1991 | 1992 | 1993 | 1989 | 1990 | 1991 | 1992 | 1993 | 1989 | 1990 | 1991 | 1992 | 1993 |
| FLAXSEED | | | | | | | | | | | | | | | |
| MANITOBA | 279,200 | 296,400 | 250,083 | 149,700 | 232,700 | 800 | 1,300 | 1,300 | 1,600 | 1,118 | 218,500 | 381,000 | 330,200 | 208,300 | 243,900 |
| SASKATCHEWAN | 263,300 | 344,000 | 220,397 | 129,500 | 271,100 | 800 | 1,300 | 1,200 | 1,000 | 1,304 | 236,200 | 431,800 | 266,700 | 109,200 | 342,900 |
| ALBERTA | 34,400 | 54,600 | 28,533 | 18,200 | 20,200 | 1,300 | 1,400 | 1,300 | 1,200 | 1,634 | 43,200 | 76,200 | 38,100 | 16,500 | 33,000 |
| CANADA | 596,900 | 694,000 | 498,013 | 297,400 | 524,000 | 800 | 1,300 | 1,300 | 1,300 | 1,235 | 497,900 | 889,000 | 635,000 | 334,000 | 619,800 |
| SOYBEANS | | | | | | | | | | | | | | | |
| QUEBEC | 17,500 | 18,200 | 25,271 | 33,000 | 33,000 | 2,500 | 2,800 | 2,600 | 2,600 | 2,906 | 43,000 | 51,000 | 66,000 | 86,000 | 93,000 |
| ONTARIO | 522,000 | 465,400 | 570,228 | 607,000 | 686,000 | 2,300 | 2,600 | 2,400 | 2,300 | 2,582 | 1,175,700 | 1,211,100 | 1,388,000 | 1,360,800 | 1,741,800 |
| CANADA | 539,500 | 483,600 | 595,497 | 643,600 | 728,700 | 2,300 | 2,600 | 2,400 | 2,300 | 2,573 | 1,218,700 | 1,262,100 | 1,459,900 | 1,455,300 | 1,851,300 |
| MUSTARD SEED | | | | | | | | | | | | | | | |
| MANITOBA | 9,700 | 10,100 | 6,801 | 4,000 | 4,000 | 760 | 1,310 | 1,260 | 1,250 | 950 | 7,400 | 13,200 | 8,900 | 3,500 | 3,800 |
| SASKATCHEWAN | 161,900 | 186,200 | 82,047 | 97,100 | 161,900 | 730 | 1,070 | 1,000 | 1,180 | 1,140 | 117,900 | 201,800 | 81,700 | 109,700 | 180,000 |
| ALBERTA | 28,300 | 32,400 | 24,229 | 16,300 | 24,300 | 1,040 | 1,060 | 1,260 | 1,410 | 1,321 | 29,500 | 34,500 | 30,500 | 20,100 | 32,100 |
| CANADA | 199,900 | 230,700 | 112,877 | 119,400 | 190,200 | 770 | 1,088 | 1,070 | 1,210 | 1,160 | 154,800 | 249,500 | 121,100 | 133,300 | 215,900 |
| CANOLA | | | | | | | | | | | | | | | |
| ONTARIO | 16,200 | 20,200 | 26,040 | 14,200 | 24,300 | 1,500 | 2,100 | 1,700 | 2,100 | 1,900 | 24,900 | 43,100 | 45,400 | 29,500 | 45,400 |
| MANITOBA | 445,200 | 362,100 | 507,776 | 647,500 | 752,700 | 900 | 1,300 | 1,600 | 1,600 | 1,214 | 395,600 | 460,400 | 796,100 | 986,600 | 884,500 |
| SASKATCHEWAN | 1,335,500 | 1,133,100 | 1,359,352 | 1,375,900 | 1,881,600 | 1,000 | 1,300 | 1,300 | 1,200 | 1,262 | 1,360,800 | 1,451,500 | 1,723,700 | 1,428,800 | 2,313,300 |
| ALBERTA | 1,092,700 | 991,500 | 1,206,825 | 1,153,400 | 1,456,900 | 1,300 | 1,300 | 1,300 | 1,200 | 1,437 | 1,406,100 | 1,281,400 | 1,621,600 | 1,349,400 | 2,063,800 |
| BRITISH COLUMBIA | 28,300 | 32,400 | 40,532 | 44,500 | 40,500 | 1,100 | 900 | 900 | 900 | 1,064 | 31,800 | 29,500 | 37,400 | 32,700 | 43,100 |
| CANADA | 2,917,900 | 2,529,300 | 3,140,525 | 3,235,500 | 4,158,200 | 1,100 | 1,300 | 1,300 | 1,300 | 1,317 | 3,209,200 | 3,265,900 | 4,224,200 | 3,872,400 | 5,350,100 |
| SUNFLOWER SEED | | | | | | | | | | | | | | | |
| MANITOBA | 46,500 | 56,700 | 73,800 | 64,700 | 50,600 | 1,350 | 1,790 | 1,690 | 1,300 | 1,061 | 63,000 | 100,700 | 124,300 | 55,300 | 47,200 |
| SASKATCHEWAN | 6,100 | 6,900 | 7,097 | 8,100 | 32,400 | 670 | 1,060 | 1,160 | 1,150 | 954 | 4,100 | 7,300 | 8,200 | 8,400 | 29,000 |
| CANADA | 53,400 | 64,800 | 82,097 | 74,400 | 85,000 | 1,290 | 1,700 | 1,640 | 1,271 | 1,021 | 68,200 | 110,300 | 134,600 | 64,800 | 78,500 |

SOURCE: Statistics Canada, CANSIM

inces (Manitoba, Saskatchewan and Alberta) and in the Peace River Region of British Columbia. Ontario saw the introduction of canola in the last half of the 1980's. Extensive testing over the past several years found that winter type canola is suited to the growing climate in some parts of Ontario. As a result, it is expected that canola production in Ontario will gradually increase during the 1990's.

In the early 1990's, Sunola, a short stem drought resistant sunflower type, was introduced into the Canadian prairies. It is expected that production of Sunola will grow during the 1990's. About the same time, Linola, a light coloured special variety flaxseed, was also introduced to the Prairie provinces. Both of these cultivars are controlled under Canada's Plant Breeders' Rights legislation.

With continued plant breeding and varietal research, the growing of oilseed crops may become less regionalized. The introduction of canola varieties suitable to Eastern conditions, of new soybean varieties suitable for Québec, Manitoba and the Maritime provinces and of Linola and Sunola are evidence of this trend.

B1 CANOLA

The commercial production of rapeseed (a forerunner of canola) in Western Canada began in 1942 to provide a new source of lubricants for the allied war effort. After the end of World War II, rapeseed oil began to be used for human consumption in Western countries, but in very small amounts due to some limitations related to its nutritional composition.

sumption in Western countries, but in very small amounts due to some limitations related to its nutritional composition.

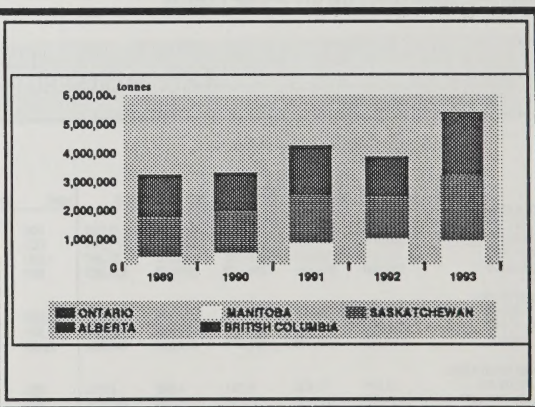
In the mid-1970's, the development of new rapeseed varieties by Agriculture Canada and the University of Manitoba provided the Canadian rapeseed industry with a breakthrough. These new varieties, now known as canola, had a maximum of not more than 30 micromoles/gm of the four aliphatic glucosinolates and no more than 2 percent erucic acid. This has opened the way for the acceptance of canola as a high quality source of edible vegetable oil and improved protein meal. The prominence of canola and canola oil was enhanced in 1985 when the U.S. Food and Drug Administration granted canola GRAS (Generally Recognized as Safe) status in 1985. As of August 1, 1987, the Canadian Grain Commission changed the official name of this crop from rapeseed to canola. On January 1, 1988, the name canola was recognized under the Harmonized System as Canada's type of rapeseed.

Continued research efforts have reduced the levels of glucosinolates to less than 20 micromoles/gm and of erucic acid to less than one percent. As a consequence, in the mid 1990's the definition of canola could be revised to reflect the lower

**Table 2
CANADIAN SUPPLY AND DISPOSITION
OF CANOLA SEED, OIL AND MEAL**

| | (000) tonnes | | | | | |
|-------------------------------|--------------------|---------|---------|---------|---------|---------|
| | Average 1984-95 | 1988-89 | 1989-90 | 1990-91 | 1991-92 | 1992-93 |
| CANOLA SEED | | | | | | |
| STOCKS AT AUG. 1 | 567.0 | 636.3 | 1,113.7 | 749.1 | 398.7 | 734.0 |
| PRODUCTION | 3,712.3 | 4,218.3 | 3,209.2 | 3,266.9 | 4,224.2 | 3,872.0 |
| IMPORTS | 10.0 | 12.3 | 7.3 | 19.0 | 41.5 | 112.0 |
| TOTAL SUPPLIES | 4,279.3 | 4,866.9 | 4,330.2 | 4,034.0 | 4,664.4 | 4,718.0 |
| EXPORTS | 1,747.3 | 1,948.6 | 2,047.8 | 1,887.7 | 1,893.8 | 1,876.0 |
| DOMESTIC CRUSH | 1,404.5 | 1,361.7 | 1,228.5 | 1,441.2 | 1,829.3 | 1,913.0 |
| SEED REQUIREMENTS | 21.4 | 22.6 | 19.7 | 21.1 | 23.1 | 30.0 |
| LOSS IN HANDLING | 0.8 | 0.8 | 2.1 | 0.1 | 0.0 | 0.0 |
| ANIMAL FEED WASTE AND DOCKAGE | 349.6 | 419.5 | 283.0 | 295.2 | 264.3 | 269.0 |
| STOCKS AT JULY 31 | 755.8 | 1,113.7 | 749.1 | 398.7 | 653.9 | 631.0 |
| TOTAL DISPOSITION | 4,279.3 | 4,866.9 | 4,330.2 | 4,034.0 | 4,664.4 | 4,718.0 |
| CANOLA OIL | | | | | | |
| PRODUCTION | 668.5 | 643.0 | 483.0 | 576.0 | 742.0 | 793.0 |
| EXPORTS | 250.9 | 210.6 | 146.5 | 203.0 | 284.6 | 356.0 |
| CANOLA MEAL | | | | | | |
| PRODUCTION | 809.0 | 777.0 | 761.0 | 875.0 | 1,097.0 | 1,165.0 |
| EXPORTS | 340.2 | 437.0 | 368.5 | 469.1 | 739.9 | 759.1 |

SOURCE: Statistics Canada



**Figure 1:
CANOLA PRODUCTION IN CANADA**

levels of these compounds.

To satisfy a small but worthwhile industrial market, a small acreage (1%) of high erucic acid rapeseed is produced under contract and under specific agronomic regulations. The regulations ensure that oil from high erucic acid rapeseed does not enter the edible oil market. The meal from these va-

ieties meets canola meal's glucosinolates levels; therefore, the meal is marketed along with canola meal.

According to 1989 data, canola oil accounts for 63 percent of all vegetable oils produced in Canada and about 82 percent of salad oils.

Initially, canola production and utilization were subject to considerable fluctuations from year to year. However, in the past several years, such fluctuations have decreased, in combination with a general increase in production. Production remains dependent on weather conditions, crop rotation requirements, international commodity prices and crushing margins. A positive combination of all these factors lead to a record production (5.3 million tonnes) in 1993.

The nearly 50,000 Canadian canola producers are the backbone of the industry. Their product, canola seed, moves to the market through an extensive handling and processing chain.

Some producers are members of producer cooperative handling companies, which are part of this marketing chain. Saskatchewan Wheat Pool, one of Canada's largest agro-industrial organizations, and Manitoba Pool Elevators receive and transport a high proportion of the oilseeds produced in their own provinces. In addition, these two Pools along with another partner own CanAmera Food, a major Canadian oilseed crusher. Like the other Pools, Alberta Wheat Pool also handles a high proportion of the canola seed produced in its province; however, the Alberta Pool is no longer involved in crushing oilseeds. The three Pool organizations jointly own XCan, a major exporter of Canadian oilseeds and grain.

Another producer owned company, United Grain Growers (UGG), is involved in the handling and transportation of grain and oilseeds throughout Western Canada. Canagrain, a joint venture of UGG and Continental Grain, is actively involved in the commodity export market including oilseeds and its products.

In addition to the producer owned organizations, numerous private companies are involved in all different aspects of the canola sector and particularly in the trading and processing areas. For a listing of the companies, refer to Appendix "B", Trading Companies. While some of these companies are multinational in nature, others are fully Canadian owned. All of them belong to the Canola Council of Canada.

B2 SOYBEANS

Soybeans were introduced into Canada in 1893; however, they did not become a commercial oilseed crop until the late 1920's. In that year, the first soybean crushing plant was built in Milton, Ontario. The introduction of modern crushing mills occurred in the late 1930's. Increased demand for vegetable oil and protein meal during the early 1940's firmly established the crop and by 1950, soybeans had become a major cash crop in Ontario. Strong promotional efforts by the crushing industry assisted in continued expansion of the crop.

During the 1980's, soybeans were introduced into Québec, the Maritimes and Manitoba as a source of livestock feed. Due to the presences of enzymes, soybeans must be roasted before being fed to livestock. In Québec, whole soybeans have become a viable alternative feed source. In other regions, whole soybeans are only a minor ingredient for livestock. Research is underway that may reduce or eliminate the need to roast whole beans before feeding. Some researchers have reduced the levels of the culprit enzymes; hence, whole unroasted soybeans can form a limited part of livestock feed.

The soybean growers, like their canola counterparts, have also shown a high degree of cohesion and organizational ability. In 1949, the Ontario Soybean Growers' Marketing Board was founded. The Board represents 25,000 producers and negotiates the pricing arrangements for Ontario soybeans. Its functions are discussed in more detail further in this report. The handling, crushing and exporting of soybeans and soybean products are handled by private companies.

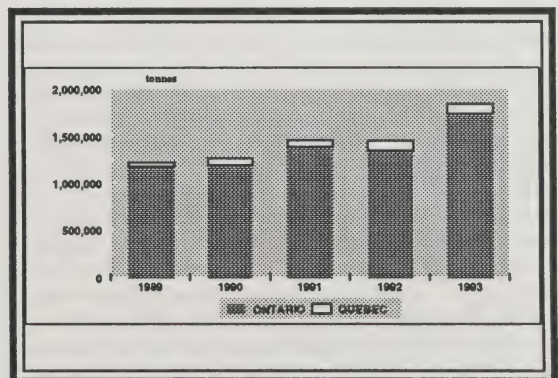


Figure 2:
SOYBEAN PRODUCTION

Table 3
CANADIAN SUPPLY AND DISPOSITION OF
SOYBEANS, SOYOIL AND SOYMEAL

| | (000) tonnes | | | | | |
|-------------------|--------------------|---------|---------|---------|---------|---------|
| | Average 1984-95 | 1986-89 | 1989-90 | 1990-91 | 1991-92 | 1992-93 |
| SOYBEANS | | | | | | |
| STOCKS AUGUST 1 | 142.9 | 136.1 | 164.0 | 191.0 | 210.4 | 190.0 |
| PRODUCTION | 1,062.2 | 1,152.6 | 1,218.7 | 1,262.1 | 1,459.9 | 1,455.0 |
| IMPORTS | 106.0 | 159.1 | 287.2 | 163.5 | 72.2 | 226.0 |
| TOTAL SUPPLIES | 1,391.1 | 1,447.8 | 1,669.9 | 1,616.6 | 1,742.5 | 1,871.0 |
| EXPORTS | 184.9 | 293.9 | 192.6 | 188.1 | 251.6 | 189.0 |
| CRUSHING | 917.4 | 954.8 | 1,102.0 | 936.5 | 991.7 | 0.0 |
| SEED | 50.0 | 66.8 | 68.8 | 71.2 | 88.2 | 43.0 |
| RESIDUAL | N/A | 88.3 | 115.5 | 211.4 | 210.3 | N/A |
| STOCKS JULY 31 | 150.2 | 164.0 | 191.0 | 210.4 | 219.5 | N/A |
| TOTAL DISPOSITION | 1,391.1 | 1,447.8 | 1,669.9 | 1,616.6 | 1,742.5 | 1,559.0 |
| SOYOIL | | | | | | |
| PRODUCTION | 160.0 | 149.0 | 199.0 | 164.0 | 180.1 | N/A |
| EXPORTS | 2.9 | 2.0 | 2.7 | 3.8 | 2.7 | 2.3 |
| SOYMEAL | | | | | | |
| PRODUCTION | 708.2 | 656.0 | 892.0 | 720.0 | 759.6 | N/A |
| EXPORTS | 4.9 | 1.9 | 0.4 | 13.6 | 26.8 | 43.0 |

NOTE: For 1991 and 1992 crop years, the crushing figures sourced from COPA
SOURCE: Statistics Canada, CANSIM

Canadian soybean production has increased sharply from the late 1970's when up to 60 percent of Canadian soybean requirements had to be imported. In 1987, domestic production reached a level capable of supplying most internal demands for crushing (Table 3). Although some soybeans are still being imported from the U.S., Canada exports a larger volume of high quality white hilum soybeans for food utilization in Asian and European markets.

Domestic crush of these larger crops has made Canada self-sufficient in soyoil production; however, soymeal is still in a deficit position. About 600,000 tonnes representing close to 50 percent of domestic soymeal utilization requirements needs to be imported yearly.

Up to 1991, the soybean crushing industry was operating below capacity. In that year, Victory Soy Mill in Toronto closed. The result is that the crushing capacity now meets the production of soybeans for crushing. Therefore, without an increase in crushing capacity, Canada will remain a net importer of oilmeals. Nevertheless, increasing the crush is economically questionable until a viable market outlet is found to absorb the additional soyoil produced. The 1992 elimination of the U.S. crude soyoil tariff (18%) could ease the situation. The two companies crushing soybeans in Canada are corporately linked to large multinational corporations, with major U.S. operations. Therefore, without tariff, the unrestricted movement of soyoil between the two countries is a possibility. Any significant increase in domestic crush volumes to supply the meal demand would also imply a proportional in-

crease in domestic soybean production or an increase in soybean imports. Increasing Canadian production significantly in short order may not be feasible due to the requirements imposed by crop rotation and limited markets in Ontario and the climatic restrictions of the remainder of Canada.

B3 FLAXSEED

This was the first oilseed crop to be widely grown in Western Canada. It was used in the early 1900's as a "break crop" in virgin soils. Production reached a peak in 1911, but subsequently declined in part because of flaxseed's susceptibility to disease. During World War II and in subsequent years, flaxseed production was once more encouraged. During the 1960's and 1970's, production was quite variable depending, in part, on prices compared to those of alternative crops.

During the early 1980's, flaxseed production steadily increased reaching a record level of 755,000 hectares in the 1986-87 crop year with a total production of 1,026,300 tonnes. However, during the following two years, acreage of this crop declined to a level of 501,200 hectares in 1988-89. The drought during the 1988-89 growing season further depressed total production, to a meagre 372,900 tonnes, the lowest production level produced since 1976. Production in 1989-90 increased to 530,600 tonnes reflecting better growing conditions and a significant growth in acreage. In the early 1990's, world production of flaxseed once again exceeded world demand. The European Community (Canada's major customer) financially encouraged the production of flaxseed

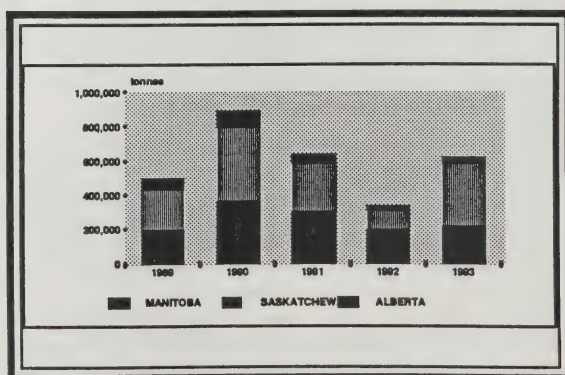


Figure 3:
FLAXSEED PRODUCTION

for oil as an alternative to agriculture crops already in a world surplus situation. Consequently, the unit price of flaxseed and the exports from Canada both fell significantly. In 1992, the Canadian production of flaxseed was the lowest in several years, while stocks remained high. In addition, the only plant dedicated to crushing flaxseed closed. However, the Canadian linseed oil requirements are met from the multi-seed crushing facility in Manitoba.

In early 1993, the European Community proposed changes in their linseed (flaxseed) regime. Since linseed meal is of higher value than oil, linseed would be treated on a similar basis as protein crops (feed peas) but at a higher level of aid. Linseed would be included in the Integrated Arable Regime from 1993-94. Linseed was to draw a set-aside requirement of 15 percent commencing with the 1993 crop; but, because the proposed changes were adopted after the sowing date for linseed, the full introduction of the changes was delayed until 1994.

Demand for linseed oil has suffered from technological developments (such as the increased use of water based paints and petroleum based floor coverings as well as the increased substitutability of alternative oils). However, in the late 1980's, the trend toward environmentally friendly and health oriented products has begun to open new opportunities for the flaxseed industry. The biodegradability and non-allergenic characteristics of linoleum along with quality improvements has seen the resurgence of demand for this linoleum in Europe. Another product receiving much attention is a concrete sealant based on linseed oil. Indications are that the same trend could take place in North America. As such products use linseed oil, the long term effect of a continuing upswing in their use would be a higher demand for flaxseed. In

addition, other industrial products based on linseed oil are attracting more interest for these same factors.

The nutritional advantages of flaxseed in human diets is another aspect that has lately attracted a degree of attention. There is evidence that substantial health benefits may be obtained. Low linoleic acid flaxseed varieties, such as Linola, producing an oil specifically oriented for human consumption, were developed in Australia. One Canadian firm has purchased the rights to market Linola seed in Canada. The first year of intensive production was 1993. Other such flaxseed types are being developed by other organizations.

Flaxseed is grown in Western Canada and most of the organizations (both producer owned and private) that are involved in marketing canola, also carry out similar activities for flaxseed (see page 3). Most of the crop is grown for the export market as seed for crushing.

B4 SUNFLOWER

Commercial production of sunflower seed for oil also began as a result of the vegetable oil shortage during World War II. Production of this crop, mainly grown in Southern Manitoba, was stimulated when a crushing plant was established in that area in the mid-1940's. However, it has not become a major source of vegetable oil in Canada. The limited supply of sunflower seed is due to its susceptibility to disease, to its agronomic requirements (120 to 130 day growing period and the need of specialized equipment) and to the relatively high cost of production.

After reaching a low of 26,100 hectares planted with production of 36,300 tonnes in 1986, acreage and production slowly increased to reach average levels in 1989-90. Further increases in the early 1990's indicate continued growth during this decade. The poor weather during the 1992 and 1993 crop years reduced sunflower production significantly. Sunflower production has expanded out of Manitoba and into Saskatchewan.

Since 1991, dwarf drought resistant cultivars of sunflower, collectively known as Sunola, were released into Western Canada. In addition, Sunola matures approximately 20 days earlier than the traditional sunflowers and can be cultivated with the current equipment used in Western Canada. While being a dwarf plant, the seed of Sunola remains large. Under Canada's Plant Breeders Rights legislation, production is limited to licensed growers. Because of its drought resistant nature, Sunola is suited for the drier areas of Saskatchewan.

**Table 4
CANADIAN SUPPLY AND DISPOSITION
OF FLAXSEED**

| FLAXSEED | (000) tonnes | | | | | |
|--------------------|-------------------------------|---------|---------|---------|---------|---------|
| | Average 1984-95 1988-89 | 1988-89 | 1989-90 | 1990-91 | 1991-92 | 1992-93 |
| PRODUCTION | 722.0 | 327.6 | 497.9 | 889.0 | 635.0 | 0.0 |
| IMPORTS | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| STOCKS AT AUGUST 1 | 283.1 | 397.3 | 161.7 | 54.4 | 357.5 | 0.0 |
| TOTAL DISPOSITION | 1,005.1 | 724.9 | 659.6 | 943.4 | 992.6 | 0.0 |
| EXPORTS | 598.5 | 454.6 | 497.9 | 496.8 | 458.2 | 0.0 |
| TOTAL DOMESTIC USE | 132.2 | 108.6 | 107.3 | 89.1 | 109.5 | 0.0 |
| STOCKS AT JULY 31 | 682.8 | 497.9 | 889.0 | 635.0 | 0.0 | 0.0 |

SOURCE: Statistics Canada, CANSIM

wan. In 1993, the acreage of Sunola was about 30,352 hectares.

Sunola is primarily grown for the oil contained in the seed. The oil from this variety has the characteristics of the oil from traditional sunflower seeds. The oil from Sunola is neutral and bland, is light in colour and has a low smoke point. With its unique fatty acid profile, Sunola oil is expected to be attractive in some of the speciality oil markets. The oil from Sunola contains between 70 percent and 72 percent linoleic acid. (Traditional sunflower oil contains about 69 percent linoleic acid.) This oil also contains a high percentage of polyunsaturated fatty acids.

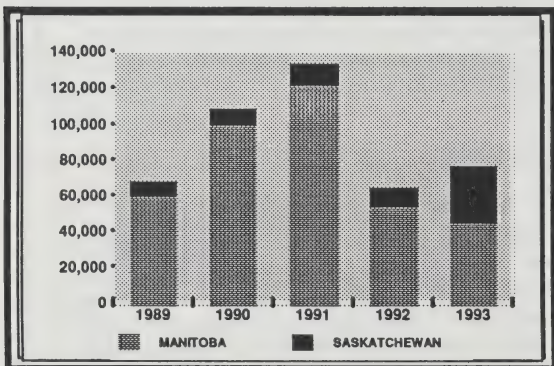


Figure 4:
SUNFLOWER SEED PRODUCTION

B5 MUSTARD

This oilseed has been grown in Canada since 1936 when the first 40 hectares were planted in southern Alberta. By 1990 the area had increased to an estimated 230,700 hectares, producing 249,800 tonnes of seed (see Table 1). In the 1991 and 1992, mustard seed production fell by about 50%; however, in 1993, acreage and production returned to near normal levels. The largest portion of the crop is exported in raw form to Japan, the U.S., Europe and Bangladesh. The majority of Canadian production is for condiment usages.

B6 SAFFLOWER

The first record of Canadian safflower production, which could be termed "commercial", was a four hectare field in Barons, Alberta in 1943. The vegetable oil shortage during the war led to this research identifying the dry southern Prairies as regions with most potential for safflower. Subsequent to wartime adaptation research in the 1940's, sporadic production followed in the 1950's 1960's and 1970's across the Prairie provinces. In the early 1980's mainly southern Manitoba and southern Saskatchewan with contracts and proximity to processing facilities in Culbertson, Montana, produced safflower. In Tryro, Alberta, there was also small scale production. All of this historic production was with U.S. varieties which are basically too late in maturing for most of our southern Prairies and which have severe susceptibilities to such crop-threatening diseases (in years favouring those diseases) such as: sclerotinia head rot and alternaria leaf blight. Furthermore, the lack of weed control for this crop which rests in a rosette stage for several weeks (making it a poor competitor with weeds at that time) resulted in poor yields relative to alternative crops.

Recent safflower research and development has resulted in a viable cash crop for southern Prairie farmers. Variety development research at Lethbridge provided *Saffire*, the first Canadian safflower variety. In 1985, this variety was a joint release of Agriculture Canada and Alberta Agriculture. *Saffire* matures from one to two weeks earlier than standard U.S. varieties, and is highly resistant to sclerotinia head rot. Its white shiny achene (seed) is very suitable for the birdseed/pet-food market. This was followed by *AC Stirling* registered in

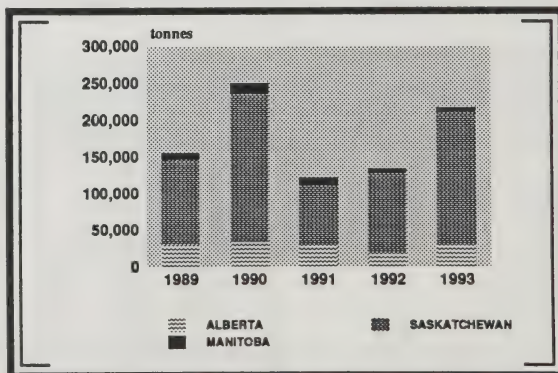


Figure 5:
MUSTARD SEED PRODUCTION

1991. This dual-purpose variety is an oilseed as well as a birdseed. *AC Stirling* averages 35 percent oil (3% higher than *Saffire*) and yields 15 percent more seed. Herbicide research resulted in trifluralin, ethalfluralin and sethoxydim being registered for use as pre-plant incorporated herbicides on safflower.

From 1986, following severe disease and frost on U.S. varieties in 1985, production shifted from Manitoba to mainly southern Saskatchewan. Producers here have easy access to U.S. varieties and contracts with the U.S. oil processor in Cul-

bertson, Montana. Also in southern Alberta, production of birdseed is dominated by *Saffire*. With improvements in seedling establishment, high oil varieties, active export efforts and/or a local oil processor becoming established, safflower acreages in the southern Prairies could increase to 20,000 to 50,000 hectares over the next decade. This future expansion of safflower depends on the availability of adapted high oil varieties which can be developed by genetically reducing the hull content. Such varieties with oil levels of up to and exceeding 40 percent would not be suitable for the current birdseed market, which wants white seed.

C THE PROCESSING SUBSECTOR

C1 BACKGROUND

The small oilseed processing industry that existed in Canada before World War II greatly benefited from the increased demand for edible and industrial vegetable oils. Many small processing facilities built between 1930 and 1950 have ceased operations and have been replaced by fewer and larger plants. These plants take advantage of the economies of scale that their larger capacity and more modern equipment provide. Currently, most of Canadian crushing plants are either relatively new or have been modernized. They incorporate the latest energy and labour saving technology as well as more efficient oil extraction methods.

For safflower only, the nearest crushing facility to the Canadian Prairie production is the plant currently owned by SVO Specialty Products, in Culbertson, Montana. This facility can store 24,000 tons of safflower and process 300 tons per day. It specializes in three products: regular (linoleic) safflower, oleic safflower and oleic sunflower.

The remaining text on the Processing Subsector was prepared by Barbara J. Bergh, Market Analyst, Canadian Oilseed Processors Association (COPA). International Markets Bureau would like to take this opportunity to thank her and COPA for their assistance.

C2 CRUSHING PLANTS

The oilseed processing industry in Canada currently consists of nine plants owned by four companies which receive and crush oilseeds to obtain crude and crude degummed vegetable oils (edible oils from canola, soybeans and sunflower seed and inedible oil from flaxseed) and protein meals for animal feed.

The rated daily throughput capacities for the plants are shown below. Annual crush capacities are 2.1 million tonnes of canola, 0.9 million tonnes of soybeans, 0.5 million tonnes of sunflower seed and 0.8 million tonnes of flaxseed.

Over the past ten years, the number of canola crushing plants in Canada has remained unchanged and the number of

companies has dropped from seven to four. However, the daily crush capacity has increased from 3.9 to 6.5 thousand tonnes. Over the same period, one soybean crushing plant closed, causing a drop in soybean crush capacity from 3.7 to 2.5 thousand tonnes per day. The number of plants and companies crushing sunflower seed remained the same, while sunflower seed crushing capacity rose from 0.4 to 1.4 thousand

**Table 5
CRUSHING FACILITIES**

| | tonnes/24 hour day | | | |
|--|--------------------|--------------|--------------|--------------|
| | Canola | Soybeans | Sunflower | Flaxseed |
| ADM Agri-Industries Ltd. | | | | |
| - Windsor, Ontario | 1,200 | 1,250 | 1,200 | 1,200 |
| - United Oilseed Products Inc. at Lloydminster, AB | 720 | - | - | - |
| - Total | 1,920 | 1,250 | 1,200 | 1,200 |
| CanAmera Foods | | | | |
| - Hamilton, Ontario | 600 | 1,270 | - | - |
| - Altona, Manitoba | 725 | - | 240 | 725 |
| - Harrowby, Manitoba | 600 | - | - | 600 |
| - Nipawin, Saskatchewan | 600 | - | - | - |
| - Fort Saskatchewan, Alberta | 700 | - | - | - |
| - Total | 3,225 | 1,270 | 240 | 1,325 |
| Canbra Foods Ltd. | | | | |
| - Lethbridge, Alberta | 700 | - | - | - |
| Northern Lite Canola Inc. | | | | |
| - Sexsmith, Alberta | 700 | - | - | - |
| TOTAL | 6,545 | 2,520 | 1,440 | 2,525 |

Source: Industry Sources

tonnes per day. One flaxseed crushing company ceased operations, but the daily crush capacity increased from 0.3 to 1.2 thousand tonnes.

C3 INDUSTRY STATISTICS

Table 6 shows various statistics regarding the processing industry in Canada. In 1991, the latest year for which data was available, the oilseed crushing industry employed 956 people, down 1 percent from 1990. Salaries and wages totaled \$34 million that year down 3 percent from 1990.

In 1991, the oilseed processing industry purchased materials and supplies, mainly oilseeds for processing, valued at \$682 million, up 4 percent from the previous year.

**Table 6
ECONOMIC STATISTICS**

PRINCIPAL STATISTICS FOR THE CRUSHING INDUSTRY

| | 1988 | 1989 | 1990 | 1991 |
|---------------------|---------------|---------------|---------------|---------------|
| Number of Employees | 1,118 | 1,112 | 969 | 956 |
| Salaries and Wages | \$40 million | \$37 million | \$35 million | \$34 million |
| Cost of Materials | \$792 million | \$717 million | \$658 million | \$682 million |
| Value of Shipments | \$968 million | \$854 million | \$804 million | \$828 million |
| Value-Added | \$169 million | \$127 million | \$131 million | \$132 million |

Source: Statistics Canada, Food Industries #82-250

The total value of shipments was \$828 million in 1991, up 3 percent from 1990. The value-added component for the industry was \$132 million in 1991, up 1 percent over 1990.

C4 METHODS OF PROCESSING

Two main methods of processing oilseeds are used in Canada to extract the oil from the meal: (1) pre-press solvent extraction which is used for higher oil content oilseeds such as canola, sunflower seed and flaxseed; and (2) direct solvent extraction which is used for lower oil content oilseeds such as soybeans.

Except for the presence of the mechanical expeller in the pre-press solvent extraction method, the steps followed are basically the same.

In pre-press solvent extraction, the seeds are first flaked and heated for easier oil extraction, and then passed through a screw press. This squeezes out a large proportion of the oil,

which is routed to a settling tank. The remaining oil cake is reground and sent to the solvent extractor, in which a solvent dissolves the oil from the meal. The oil is separated from the solvent by distillation. The solvent is recycled and the crude oil is sent on to be refined.

Oil extraction using the direct solvent method is essentially the same as described above, except that after the initial flaking and heating operation, the material is sent directly to the solvent extractor.

C5 OILSEED CRUSHINGS

The two major oilseeds processed in Canada are canola and soybeans, with small amounts of sunflower seed and flaxseed also being crushed. In 1992, canola crushings accounted for 64 percent of total oilseed crushings, with soybean crushings accounting for 34 percent.

Canola is crushed mainly for its oil as its seed yields about 40 percent oil and 60 percent meal. Soybeans are

crushed more for the meal yielding about 78 percent meal and 17.5 percent oil. Sunflower seed yields 42 percent oil and 35.5 percent meal, while flaxseed yields 34 percent oil and 63 percent meal.

In 1992, Canadian oilseed crushings were a record 2.9 million tonnes, up 13 percent over 1991. Canola crushings were a record 1.9 million tonnes in 1992, up 17 percent from the previous record of 1.6 million tonnes in 1987 and up 19 percent over 1991 canola crushings. Soybean crushings in 1992 totaled 1.0 million tonnes, up 5 percent over 1991.

In 1992, Canada accounted for 8 percent of total world rapeseed/canola crushings, compared with 1 percent each for soybeans and flaxseed, and less than 1 percent for sunflower seed.

Table 7
OILSEED CRUSHINGS

| | 000 tonnes | | | | |
|----------------|----------------|----------------|----------------|----------------|----------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| Canola | 1,523.4 | 1,352.1 | 1,263.2 | 1,577.3 | 1,872.8 |
| Soybeans | 908.2 | 916.0 | 1,083.5 | 943.6 | 995.2 |
| Sunflower seed | 52.5 | 56.9 | 71.0 | 73.3 | 54.0 |
| Flaxseed | 37.9 | 23.6 | 16.5 | 14.5 | 16.1 |
| TOTAL | 2 522.0 | 2 348.6 | 2 434.2 | 2 608.7 | 2 938.1 |

Sources: Statistics Canada Oils and Fats #32-006 and Oil World

C6 VEGETABLE OILS

In 1992, total vegetable oil production in Canada was a record 1.0 million tonnes, up 17 percent from 1991. The same year canola oil accounted for 77 percent of total vegetable oil production and soybean oil for 18 percent.

**Table 8
VEGETABLE OIL PRODUCTION**

| | 000 tonnes | | | | |
|---------------|--------------|--------------|--------------|--------------|----------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| Canola oil | 616.0 | 538.3 | 500.2 | 632.2 | 768.3 |
| Soybean oil | 159.0 | 162.7 | 194.8 | 166.0 | 180.1 |
| Sunflower oil | 22.0 | 23.9 | 29.8 | 30.7 | 22.7 |
| Linseed oil | 12.9 | 8.0 | 5.6 | 4.9 | 5.5 |
| Other oils | 24.4 | 24.2 | 24.7 | 25.1 | 26.0 |
| TOTAL | 834.3 | 757.1 | 755.1 | 858.9 | 1,002.6 |

Sources: Statistics Canada Oils and Fats #62-006 and Oil World

Canada is a net exporter of vegetable oils. In 1992, exports were 0.4 million tonnes and imports were 0.1 million tonnes for a positive trade balance of 0.3 million tonnes. Canola oil exports accounted for 86 percent of total vegetable oil exports in 1992, with 84 percent of canola oil exports being destined for the U.S. 4 percent for Peru, 3 percent each for Bangladesh and India, and 1 percent each for Japan and South Korea.

**Table 9
VEGETABLE TRADE**

VEGETABLE OIL IMPORTS

| | 000 tonnes | | | | |
|---------------|--------------|--------------|--------------|--------------|--------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| Canola oil | 0.5 | 2.4 | 1.9 | 0.6 | 1.4 |
| Soybean oil | 4.5 | 4.0 | 8.3 | 7.1 | 16.0 |
| Sunflower oil | 5.8 | 9.9 | 12.9 | 8.0 | 9.9 |
| Linseed oil | 3.4 | 2.5 | 0.5 | 1.9 | 1.5 |
| Other oils | 102.3 | 81.4 | 92.4 | 99.2 | 95.3 |
| TOTAL | 116.5 | 100.2 | 116.0 | 116.8 | 124.1 |

VEGETABLE OIL EXPORTS

| | 000 tonnes | | | | |
|---------------|--------------|--------------|--------------|--------------|--------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| Canola oil | 363.9 | 209.2 | 167.2 | 222.1 | 322.9 |
| Soybean oil | 2.8 | 1.0 | 1.9 | 5.3 | 3.2 |
| Sunflower oil | 2.8 | 1.8 | 1.8 | 4.2 | 4.1 |
| Linseed oil | 0.8 | 3.3 | 0.1 | 0.9 | 0.3 |
| Other oils | 16.6 | 16.5 | 21.1 | 39.7 | 44.9 |
| TOTAL | 386.9 | 231.8 | 192.1 | 272.2 | 375.4 |

Source: Statistics Canada, International Trade Division

That same year Canada accounted for 17 percent of total world rapeseed/canola oil exports, while Canadian soybean, sunflower and linseed oil exports all accounted for less than 1 percent of total world exports. The same year, 0.7 million tonnes of vegetable oils were used domestically in Canada, up 2 percent from 1991 and up 30 percent over 1988. Canola oil accounted for 58 percent of total domestic use of vegetable oils in 1992, compared with 27 percent for soybean oil and 4 percent for sunflower oil

C7 COMPOSITION OF CANADIAN OILSEEDS

The oil and meal content of these different oilseeds vary considerably. The ten year average oil and meal content of these oilseeds were as follows:

| | Percentage of Output | |
|----------------|----------------------|----------------|
| | Oil | Meal |
| Soybean | 20.7 | 78 |
| Canola | 42.0 | 57 |
| Flaxseed | 43.4 | 59 |
| Sunflower seed | 42.0 | 33 |
| Mustard | Not Applicable | Not Applicable |

Growing conditions can also influence these percentages from year to year. Differences in oil and meal content have a marked influence on the oil extraction processes most suitable for each oilseed and on the marketing of the resulting products. Each year, the Canadian Grain Commission analyses these crops for their quality factors. Their publications are usually available a month or two after harvest.

**Table 10
DOMESTIC VEGETABLE OIL USE**

| | 000 tonnes | | | | |
|---------------|--------------|--------------|--------------|--------------|--------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| Canola oil | 256.3 | 345.9 | 330.9 | 413.6 | 426.7 |
| Soybean oil | 158.5 | 161.8 | 196.8 | 178.2 | 195.1 |
| Sunflower oil | 25.0 | 32.0 | 40.9 | 34.5 | 28.5 |
| Linseed oil | 15.5 | 7.2 | 6.0 | 5.9 | 6.7 |
| Other oils | 110.1 | 89.1 | 96.0 | 84.6 | 76.4 |
| TOTAL | 565.4 | 636.0 | 670.6 | 716.8 | 733.4 |

SOURCE: COPA, 1993

Canola, soybean and sunflower oils are generally refined to produce salad and cooking oils, shortening oils and oils for margarine, while linseed oil is used for industrial uses, (such as in paint manufacturing). Refining removes the natural impurities to improve colour, flavour and shelf life. Total refining capacity in Canada is 0.9 million tonnes annually.

**Table 11
REFINING**

REFINERIES AND CAPACITIES

| | Annual Capacity '000 tonnes |
|--|-----------------------------------|
| ADM Agri-Industries Ltd. - Windsor, Ontario | 159 |
| Canada Starch Company Inc. - Cardinal, Ontario | 50 |
| CanAmera Foods | |
| - Montreal, Quebec | 102 |
| - Toronto, Ontario | 147 |
| - Altona, Manitoba | 103 |
| - Nipawin, Saskatchewan | 104 |
| - Wainwright, Alberta | 73 |
| - Total | 529 |
| Canbra Foods Ltd. - Lethbridge, Alberta | 90 |
| Gainers Inc. - Edmonton, Alberta | 9 |
| Monarch Fine Foods - Rexdale, Ontario | 82 |
| J.M. Schneider Inc. - Kitchener, Ontario | 5 |
| Other refineries | 5 |
| TOTAL | 929 |

Source: Industry Sources

During the refining process, the crude oil may be degummed, a process which removes the hydrateable gums by a water-degumming operation. The gum by-products are used for soap manufacture, for a food supplement or are further processed to extract the lecithin. Then either the crude or the crude degummed oil is treated with phosphoric acid and

mixed with sodium hydroxide in a continuous centrifugal alkali-refining operation.

The refined oil is then bleached to remove colour pigments and chlorophyll and is winterized if necessary. This last step prevents clouding when the oil is cooled. Hydrogenation is an optional process which is used to adjust the consistency of the oil according to the physical properties i.e. degree of hardening required by final products such as margarine and shortening.

The bleached oil, hydrogenated oil or various combinations of these oils are then deodorized to remove flavours and odours. The resulting oils are used in finished products such as salad/cooking oils, margarine and shortening. As shown in the following table, 0.7 million tonnes of deodorized vegetable oils were produced in Canada in 1992.

In 1992, deodorized vegetable oil production in Canada totaled 0.7 million tonnes, up 5 percent from 1991 and up 22 percent over 1988.

Canola oil accounted for 64 percent of total deodorized vegetable oil production in Canada that year, compared with soyoil 26 percent and sunflower oil 3 percent. In 1988, the percentage accounted for by canola oil was 63 percent, soy oil was 22 percent and sunflower oil was 4 percent.

In 1992, margarine oil accounted for 26 percent of total deodorized vegetable oil production, with shortening oil accounting for 36 percent and salad oil accounting for 38 percent. In 1988, margarine oil accounted for 21 percent, shortening oil 38 percent and salad oil 41 percent.

**Table 12
DEODORIZED OIL**

DEODORIZED VEGETABLE OIL PRODUCTION

| | 1988 | 1989 | 1990 | 1991 | 1992 |
|----------------|-------------|-------|-------|-------|-------|
| | '000 tonnes | | | | |
| Canola oil | 370.6 | 363.0 | 358.1 | 439.0 | 455.0 |
| Soybean oil | 127.9 | 129.9 | 165.2 | 159.6 | 186.5 |
| Sunflower oil | 21.4 | 24.3 | 26.0 | 23.0 | 18.5 |
| Other veg oils | 66.3 | 62.0 | 55.6 | 56.6 | 53.4 |
| TOTAL | 586.2 | 579.2 | 604.9 | 678.2 | 713.4 |
| Of which: | | | | | |
| Margarine oil | 149.8 | 146.8 | 144.1 | 151.4 | 151.1 |
| Shortening oil | 211.4 | 202.6 | 220.1 | 251.9 | 269.5 |
| Salad oil | 225.0 | 229.8 | 240.7 | 274.9 | 292.8 |

Source: Statistics Canada Oils and Fats #32-006

C8 VEGETABLE OILMEALS

Total vegetable oilmeal production in Canada in 1992 was a record 1.9 million tonnes, up 13 percent from 1991. In 1992, canola meal accounted for 59 percent of total oilmeal production and soybean meal for 40 percent.

**Table 13
OILMEALS**

VEGETABLE OILMEAL PRODUCTION

| | 000 tonnes | | | | |
|----------------|----------------|----------------|----------------|----------------|----------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| Canola meal | 913.7 | 826.4 | 775.0 | 947.3 | 1,131.6 |
| Soybean meal | 698.3 | 706.6 | 835.8 | 724.0 | 759.6 |
| Sunflower meal | 18.8 | 20.3 | 25.4 | 26.2 | 19.3 |
| Linseed meal | 23.9 | 14.9 | 10.4 | 9.1 | 10.1 |
| TOTAL | 1,654.7 | 1,568.2 | 1,646.6 | 1,706.6 | 1,920.6 |

Sources: Statistics Canada Oils and Fats #32-006 and Oil World

Historically, Canada has been a net importer of vegetable oilmeals. In 1992, however, Canada was a net exporter; exports were 0.8 million tonnes and imports were 0.6 million tonnes (of which 98 percent were soybean meal imports from the U.S.), for a positive trade balance of 0.2 million tonnes. Canola meal exports accounted for 95 percent of total vegetable oilmeal exports in 1992, with 73 percent of canola meal exports being destined for the U.S., 14 percent for Japan, 4

**Table 14
OILMEAL TRADE**

VEGETABLE OILMEAL IMPORTS

| | 000 tonnes | | | | |
|----------------|--------------|--------------|--------------|--------------|--------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| Canola meal | 0.1 | 0.4 | 0.2 | 0.1 | 0.1 |
| Soybean meal | 692.1 | 574.7 | 565.4 | 655.8 | 585.3 |
| Sunflower meal | 9.6 | 1.3 | 0.2 | 0.3 | 2.3 |
| Linseed meal | 0.5 | 1.0 | 1.0 | 3.0 | 4.1 |
| Other meals | 5 | 3 | 2 | 4 | 5 |
| TOTAL | 707.1 | 580.3 | 568.7 | 663.3 | 597.0 |

VEGETABLE OILMEAL EXPORTS

| | 000 tonnes | | | | |
|----------------|--------------|--------------|--------------|--------------|--------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| Canola meal | 532.0 | 420.3 | 380.5 | 599.4 | 718.9 |
| Soybean meal | 9.2 | 0.2 | 2.4 | 23.2 | 33.1 |
| Sunflower meal | 0.1 | 0.8 | 0.9 | 2.0 | 1.0 |
| Linseed meal | 1.5 | 3.6 | 2.7 | 2.2 | 0.1 |
| Other meals | 0.4 | 0.4 | 0.5 | 0.3 | 0.3 |
| TOTAL | 543.2 | 425.3 | 387.0 | 627.1 | 753.4 |

Source: Statistics Canada, International Trade Division

percent each for Norway, Indonesia and South Korea and 1 percent for Ireland. Canada accounted for 20 percent of total world rapeseed/canola meal exports in 1992, while Canadian soybean, sunflower and linseed meal exports all accounted for less than 1 percent of total world exports.

In 1992, 1.8 million tonnes of vegetable oilmeals were used domestically in Canada, down slightly from 1991 and down 2 percent from 1988. Canola meal accounted for 24 percent of total domestic use of vegetable oilmeals in 1992, compared with 74 percent for soybean meal.

**Table 15
DOMESTIC USE OF OILMEALS**

VEGETABLE OILMEALS - DOMESTIC USE

| | 000 tonnes | | | | |
|----------------|----------------|----------------|----------------|----------------|----------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| Canola meal | 372.4 | 412.0 | 355.5 | 376.2 | 416.1 |
| Soybean meal | 1,378.3 | 1,265.1 | 1,395.8 | 1,363.2 | 1,310.7 |
| Sunflower meal | 28.3 | 20.8 | 24.7 | 24.5 | 20.6 |
| Linseed meal | 22.9 | 12.3 | 8.7 | 9.9 | 14.1 |
| Other meals | 4.4 | 2.5 | 1.4 | 3.8 | 4.9 |
| TOTAL | 1,806.3 | 1,732.7 | 1,786.1 | 1,777.6 | 1,766.4 |

C9 ECONOMIC VALUE OF THE INDUSTRY

The oilseed crushing industry makes a large and positive contribution to the Canadian economy. It is a processing industry and as such it provides enhanced strength to the economy through value-added contributions and the financial multiplier effect.

The direct economic benefits of the oilseed crushing industry to the economy arise from: farm returns on seed purchases; value-added from crushing; value-added from refining and packaging; and an estimated multiplier effect. The value of the crushing industry as a domestic market outlet for producers was approximately \$700 million in 1992.

Calculations based on Statistics Canada's data indicate that the value-added benefit of a crushing enterprise alone is equal to about \$50 per tonne, while that of refining, packaging and retailing processes is approximately \$100 per tonne.

Based on a 1992 crush of 2.9 million tonnes, the value-added benefit of the crushing industry was \$145 million in 1992. In addition, the amount of crude canola, soybean and sunflower oils which were further refined in Canada, 0.7 million tonnes in 1992, contributed \$225 million to the process-

ing industry. The total value-added benefit of crushing and refining was approximately \$370 million in 1992.

The multiplier effect of the processing activity to produce oilseed products is estimated by economists to be 3, \$2 of additional activity generated for each \$1 of value-added activity at the processing level. Thus, a multiplier effect on the \$370 million is estimated at \$740 million for 1992.

The total direct economic benefits of the whole industry as discussed above equaled \$1,810 million in 1992. (see Table 16)

The development of domestic supplies of edible oils and protein meals contributes positively to the Canadian balance of payments, since domestic sales represent import replacements. The value of import replacement in 1992 was \$599 million.

Exports of oils and meals also yield a positive contribution to the Canadian balance of trade. In 1992, this contribution was equal to \$322 million.

The total contribution to the Canadian balance of payments by the processing industry was \$921 million in 1992.

Table 16
ECONOMIC VALUES

ECONOMIC VALUE OF THE INDUSTRY 1992

Direct Economic Benefits

| | |
|--|------------------------|
| Farm returns from seed purchases by crushers | \$700 million |
| Value-added from crushing | \$145 million |
| Value-added from refining and packaging | \$225 million |
| Estimated multiplier effect | \$740 million |
| Total Direct Economic Benefits | \$1,810 million |

Contribution to the Canadian Balance of Payments

| | |
|--|----------------------|
| Domestic oil sales value | \$351 million |
| Domestic meal sales value | \$248 million |
| Total Import Replacement | \$599 million |
| Export oil sales value | \$198 million |
| Export meal sales value | \$124 million |
| Total Export Earnings | \$322 million |
| Total Contribution to the Balance of Payments | \$921 million |

D THE MARKETING SUBSECTOR

Oilseeds have tended to be a higher value crop than grains providing farmers with an alternative in crop production and market diversification. For Western producers, canola, flaxseed and sunflower seed are cash crops as soybeans are for Eastern producers. While decisions on how much of each crop to plant are independently made by each producer, the actual marketing of the crops and products is conducted in a much more structured fashion. There are several organizations involved. The membership, mandate and operating procedures (including marketing practices) of these organizations vary considerably. The following is a brief analysis on how the major oilseed products are normally marketed.

D1 OILSEEDS MARKETING

CANOLA SEED

Canola seed is sold both domestically and abroad. In the 1992-93 crop year, out of an estimated total crop of 3.9 million tonnes, 1,900 million tonnes were crushed domestically. Exports for that year were 1.8 million tonnes with Japan being the major market (Table 17). The majority of the seed pro-

duced is destined to be crushed for oil and meal extraction. A small portion (less than 2%) of the crop is grown under strict phytosanitary conditions and sold, at premium prices, as seed for planting.

The marketing of canola seed is mainly handled through private companies, some of which are multinational in nature, or through producer co-operatives. These companies and co-ops are actively engaged in international marketing through a network of business contacts, agents, representatives, etc. Some of the largest companies and co-ops have their own elevators and have marketing, storage and distribution infrastructures. Others are considerably smaller and more regional or local in nature.

Prices for canola seed are determined openly on the Winnipeg futures market of the Winnipeg Commodity Exchange (WCE). Future prices are based on having the seed in-store at the terminals in Vancouver, B.C.. The WCE offers a place for buyers and users of canola seed to exchange canola seed contracts under a structured environment. Producer prices at delivery points in Western Canada are calculated by deducting transportation charges to Vancouver and marketing fees (i.e. handling, insurance and interest). Prices on the WCE are

primarily influenced by crop supply and demand of canola seed in Canada, its quality characteristics and the international supply of the canola seed and rapeseed. International factors; such as demand, supply and prices of competitive commodities (e.g. soybeans); also have an effect on determining the price of canola seed on the WCE. In recent times, international prices have been substantially affected by government subsidies in the European Economic Community and the U.S..

Table 17
CANOLA SEED EXPORTS BY MAJOR MARKETS

| | (tonnes) | | | | |
|-----------------|------------------|------------------|------------------|------------------|------------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| Japan | 1,583,257 | 1,712,430 | 1,906,699 | 1,762,569 | 1,702,820 |
| Mexico | 161,249 | 186,768 | 20 | 89 | 45,935 |
| South Africa | 0 | 0 | 0 | 0 | 14,895 |
| Bangladesh | 731 | 1,820 | 0 | 0 | 13,070 |
| Netherlands | 0 | 4,327 | 0 | 0 | 5,500 |
| Belgium | 528 | 24,083 | 0 | 5,000 | 5,250 |
| United States | 11,964 | 67,002 | 49,684 | 1,995 | 1,808 |
| Spain | 394 | 238 | 232 | 0 | 167 |
| France | 0 | 0 | 0 | 0 | 144 |
| Other Countries | 1,584 | 287 | 3,041 | 8,441 | 223 |
| TOTAL | 1,769,708 | 1,996,965 | 1,969,676 | 1,778,094 | 1,789,813 |

SOURCE: Statistics Canada, TIERS

The movement of canola to coastal export positions is assisted by

the Grain Transportation Agency (GTA) railcar allocation procedures. The GTA works with the railways and grain industry for the effective transportation of Western Canadian grains, including canola, from Western Canadian delivery points to export positions. Canola is moved to the Vancouver export position to meet designated export shipments, which allows for efficient use of both transportation and handling facilities.

Rail transportation rates for Western grains destined for export are regulated under the Western Grain Transportation Act (WGTA). Under the Act, producers of eligible Western Canadian grains (including canola) pay a portion of a distance related freight rate. The Government of Canada pays the remainder of the rate through payments to the railways. The Act was designed to maintain an efficient transportation system and to ensure its long term viability. Presently, this Act is being reviewed.

SOYBEANS

As mentioned before, until recently, domestic crushers were highly dependent on soybean imports from the U.S. During the 1980's however, domestic production of soybeans increased to the point of having achieved full self-sufficiency, although Canada is still highly dependent on imports of soybean meal to meet domestic requirements of protein meals for animal feed (Table 18).

Canada also exports about 20 percent of the soybean crop mostly to United States, Europe and the Far East (Japan, Hong Kong, Singapore and Malaysia). Exports to the Far East countries in particular are high quality "food grade" soybeans for human consumption (Table 19). A portion (about 10%) of the crop is grown under strict phytosanitary conditions and sold, at premium prices, as seed for planting.

Table 18
SOYMEAL IMPORTS BY PROVINCE

| | (tonnes) | | | | |
|-----------------------------|----------------|----------------|----------------|----------------|----------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| Newfoundland | 4,999 | 3,152 | 3,468 | 3,472 | 1 |
| Nova Scotia | 12,655 | 1,149 | 188 | 0 | 0 |
| New Brunswick | 3,145 | 839 | 448 | 366 | 284 |
| TOTAL MARITIMES | 20,799 | 5,140 | 4,104 | 3,839 | 285 |
| Québec | 137,365 | 106,603 | 76,834 | 66,672 | 56,934 |
| Ontario | 326,028 | 265,792 | 253,797 | 376,959 | 352,003 |
| TOTAL CENTRAL CANADA | 463,393 | 372,395 | 330,631 | 443,631 | 408,937 |
| Manitoba | 169,687 | 144,371 | 142,326 | 123,729 | 119,794 |
| Saskatchewan | 42,327 | 51,962 | 81,711 | 78,456 | 53,333 |
| Alberta | 919 | 4,230 | 2,562 | 2,189 | 2,071 |
| British Columbia | 871 | 8,161 | 7,845 | 5,882 | 2,717 |
| TOTAL WESTERN CANADA | 213,803 | 208,724 | 234,444 | 210,256 | 177,916 |
| TOTAL CANADA | 697,995 | 586,259 | 569,179 | 657,725 | 587,136 |

SOURCE: Statistics Canada, TIERS

The marketing of soybeans is mainly handled through private companies, some of which are multinational in nature. These companies have access to a marketing, distribution and storage infrastructure. Unlike canola, producer co-operatives have a lesser significance in the marketing of soybeans.

Prices of soybean and soybean products are set internationally. The Chicago Board of Trade operates the futures ex-

Table 19
SOYBEAN EXPORTS BY MAJOR MARKETS

| | (tonnes) | | | | |
|---------------------|----------------|----------------|----------------|----------------|----------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| United States | 59,786 | 127,049 | 64,537 | 122,754 | 69,135 |
| Portugal | 0 | 23,884 | 13,297 | 0 | 62,515 |
| Netherlands | 41,716 | 3,181 | 29,617 | 30,056 | 27,349 |
| Former USSR | 0 | 0 | 0 | 0 | 20,752 |
| Hong Kong | 15,122 | 14,420 | 20,106 | 15,817 | 19,376 |
| Singapore | 16,804 | 15,843 | 19,236 | 16,376 | 17,268 |
| Japan | 45,580 | 49,951 | 20,441 | 16,435 | 11,306 |
| Malaysia | 5,083 | 6,418 | 10,073 | 10,648 | 10,687 |
| Austria | 72 | 18 | 238 | 169 | 1,732 |
| Germany | 801 | 1,731 | 681 | 921 | 1,696 |
| Italy | 3,576 | 5,088 | 7,614 | 4,905 | 1,430 |
| France | 32,464 | 6,686 | 5,828 | 12,856 | 1,013 |
| Other Countries | 1,052 | 1,129 | 1,832 | 2,512 | 1,301 |
| TOTAL CANADA | 222,065 | 255,399 | 193,600 | 233,450 | 245,658 |

SOURCE: Statistics Canada, TIERS

change that determines the price of soybeans worldwide. The international price for soybeans is affected by world events and international economic and agronomic factors.

FLAXSEED

Flaxseed is principally exported as seed with relatively small amounts crushed domestically. Exports, representing about 90 percent of production, are mainly to Europe, where the seed is used to produce linoleum and other industrial products (Table 20).

The marketing, pricing and transportation of flaxseed are

Table 20
FLAXSEED EXPORTS BY MAJOR MARKETS

| | (tonnes) | | | | |
|-----------------|----------------|----------------|----------------|----------------|----------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| United States | 94,600 | 164,000 | 203,000 | 127,000 | 153,000 |
| Belgium | 54,600 | 218,000 | 113,000 | 140,000 | 150,000 |
| Japan | 79,500 | 97,100 | 95,500 | 95,600 | 69,900 |
| Netherlands | 82,100 | 16,700 | 26,100 | 36,000 | 31,700 |
| Korea, South | 7,056 | 8,441 | 11,000 | 10,700 | 4,177 |
| Germany | 202,000 | 2,891 | 31,100 | 6,634 | 3,972 |
| Denmark | 571 | 432 | 1,287 | 912 | 674 |
| Sweden | 581 | 432 | 733 | 555 | 657 |
| Switzerland | 9,022 | 0 | 0 | 18 | 626 |
| Italy | 315 | 198 | 142 | 345 | 511 |
| Other Countries | 13,055 | 14,840 | 7,649 | 5,219 | 1,849 |
| TOTAL | 543,400 | 523,035 | 489,511 | 422,983 | 417,066 |

SOURCE: Statistics Canada, TIERS

very similar to canola. Many of the companies and co-operatives involved with other Western Canadian grains deal with flaxseed. Pricing for flaxseed is done on the Winnipeg Commodity Exchange using the methodology described on page 14. Transportation for flaxseed is testing a new format for the allocation of railcars. Shippers, on the basis of meeting a sales commitment, can request railcars directly from the railways. The Grain Transportation Agency has no involvement in the railcar allocation for flaxseed.

SUNFLOWER SEED

Most of the sunflower seed produced in Canada is locally consumed by the crushing industry, or packaged as wild birdseed or exported to the U.S.. Its volume is much lower than other oilseeds and most of the acreage is grown under contract with processors and dealers. Exports of sunflower seed are about 30 percent of production, with the largest destination being the United States (Table 21). The sunflower seed industry has yet to develop a national organization.

Table 21
SUNFLOWER SEED EXPORTS
BY MAJOR MARKETS

| | (tonnes) | | | | |
|-------------------|---------------|---------------|---------------|---------------|---------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| United States | 8,971 | 12,700 | 21,800 | 42,800 | 78,300 |
| Germany | 186 | 290 | 637 | 304 | 380 |
| Turkey | 20 | 0 | 0 | 0 | 362 |
| Venezuela | 340 | 547 | 67 | 738 | 353 |
| United Kingdom | 60 | 36 | 99 | 327 | 297 |
| Mexico | 4,070 | 20 | 0 | 395 | 233 |
| United Arab Emir. | 0 | 0 | 0 | 109 | 127 |
| Spain | 672 | 752 | 708 | 841 | 111 |
| Taiwan | 297 | 0 | 0 | 66 | 108 |
| Other Countries | 270 | 133 | 126 | 283 | 149 |
| TOTAL | 14,885 | 14,478 | 23,437 | 45,863 | 80,420 |

SOURCE: Statistics Canada, TIERS

MUSTARD SEED

Canada is the world's largest exporter of this commodity. Only a small percentage of mustard is crushed locally. The majority of the crop is exported to the U.S., Europe and Japan. Canada's mustard seed exports during the 1992 calendar year were 111,316 tonnes. About 8,000 tonnes of mustard flour, largely for export, were also produced (Table 22).

In general mustard seed is marketed through private companies and cooperatives and with prices determined internationally. Mustard seed is mostly grown under contract to processors and/or dealers. Being a Western Canadian crop, mustard seed is controlled by many of the same organizations and regulations affecting canola and flaxseed. The notable exception is that no large association is involved in assisting in the marketing functions and in coordinating mustard industry positions.

Table 22
MUSTARD SEED EXPORTS BY MAJOR MARKETS

| | (tonnes) | | | | |
|-----------------|----------------|----------------|----------------|----------------|----------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| United States | 34,300 | 45,000 | 55,600 | 55,300 | 55,700 |
| Japan | 10,900 | 8,434 | 9,374 | 10,100 | 12,200 |
| Bangladesh | 16,100 | 16,800 | 4,753 | 19,400 | 11,000 |
| Belgium | 9,908 | 21,000 | 16,100 | 19,600 | 9,994 |
| Germany | 12,900 | 8,395 | 4,012 | 4,015 | 6,668 |
| Switzerland | 2,562 | 3,140 | 2,941 | 4,522 | 4,773 |
| Netherlands | 16,000 | 1,375 | 8,613 | 6,066 | 3,583 |
| France | 2,805 | 3,600 | 947 | 559 | 1,363 |
| Korea, South | 829 | 1,124 | 1,346 | 1,742 | 1,303 |
| United Kingdom | 1,371 | 1,573 | 1,141 | 602 | 871 |
| Other Countries | 10,021 | 2,791 | 1,718 | 3,482 | 3,761 |
| TOTAL | 117,697 | 113,231 | 106,646 | 125,388 | 111,316 |

SOURCE: Statistics Canada, TIERS

SAFFLOWER SEED

Nearly half of the safflower seed currently produced in Canada is sold for crushing in the U.S. and beyond (e.g. Japan). The remainder is sold mainly into the somewhat higher-paying birdseed/petfood market in the U.S., Japan and Europe. Only small amounts are sold within Canada.

Table 23
SAFFLOWERSEED EXPORTS

| | (tonnes) | | | | |
|----------------|--------------|--------------|--------------|------------|--------------|
| | 1988 | 1989 | 1990 | 1991 | 1992 |
| United States | 1,398 | 1,613 | 699 | 688 | 2,632 |
| United Kingdom | 19 | 0 | 0 | 0 | 0 |
| Belgium | 510 | 0 | 0 | 0 | 0 |
| Germany | 473 | 10 | 0 | 0 | 0 |
| Netherlands | 3,164 | 0 | 0 | 0 | 0 |
| Spain | 0 | 0 | 0 | 0 | 36 |
| Israel | 46 | 0 | 0 | 0 | 0 |
| Japan | 2,757 | 0 | 1,948 | 0 | 0 |
| Taiwan | 137 | 0 | 0 | 30 | 0 |
| TOTAL | 8,504 | 1,623 | 2,647 | 718 | 2,668 |

SOURCE: Statistics Canada, TIERS

D2 HEDGING

Hedging is a method of protecting the price of a commodity. It is used by buyers and sellers of canola, soybeans and flaxseed. Canola and flaxseed are listed on the Winnipeg Commodity Exchange. Soybeans, soyoil and soymeal are listed on the worldwide extensive futures market operated at the Chicago Board of Trade.

Soybean and soybean products prices are influenced by world events. Most of these products are bought and sold for delivery in the future, which leaves uncertainty as to the future price. Financial risks are reduced by undertaking the opposite position (a hedge) on the Future Exchange. The hedge insulates the future action from the effects of price fluctuations.

Hedging is considerably more difficult for individuals in the canola market. Canola seed and flaxseed have futures markets on the Winnipeg Commodity Exchange. Those individuals involved in the trading of these seeds can reduce financial risks. For crushers and others trading canola product and those of other oilseeds, there is no futures market. They do however hedge their products against soybean oil and soybean meal futures on the Chicago Board. There is consider-

able activity underway in Winnipeg with the intent of establishing a futures market for canola oil and meal on the Winnipeg Commodity Exchange.

D3 PROCESSED OILSEED PRODUCTS MARKETING

OILS

The price of Canadian oils - canola, soy, sunflower seed or flaxseed is determined primarily on the Chicago Commodity Exchange against the price of soyoil. Adjustments are made for currency exchange rates, transportation costs, conditions of sale, etc. The crushing companies sell their products domestically either directly to customers or through commodity dealers depending on the conditions of the specific transaction. Overseas sales tend to go through national and multinational trading companies. In most cases domestic crushers sell their products on an F.O.B. plant or dock basis leaving the freight and other considerations to the trading companies.

The apparent utilization (domestic production plus imports) of vegetable oils in Canada during the 1992 crop year was over 900,000 tonnes. Domestic usage of canola oil was about 545,000 tonnes, which accounted for a 60% of the market. Soyoil followed with domestic usage at 236,096 tonnes or 26% market share. The increasing preponderance of canola oil in the domestic market and the proportional reduction in market share of other vegetable oils continues a long-term trend.

MEAL

The two principal oilmeals sold in Canada are canola and soybean meals. The price of soymeal is determined by adjusting to the prevalent Chicago prices. Canola meal prices are set using its relative protein content compared to soymeal. Canola meal contains almost 70 percent of the protein level of soymeal; therefore, the price of canola meal is about 70 percent that is soymeal. As previously discussed, strong domestic demand for soybean meal, more than domestic production, has to be met by a high volume of imports. In the 1992, imports amounted to 585,338 tonnes. Sunflower seed and flaxseed meals are available only in very small volumes not being considered a significant factor in the present protein meal situation in Canada.

MARGARINE AND OTHER FURTHER
PROCESSED PRODUCTS

The estimated Canadian deodorizing capacity is 929,000 tonnes per year. Deodorized oils in Canada are primarily utilized in three main products: margarine, shortening and salad oils. Canola oil has the overwhelming market share (about 80%) of the salad oils and also is the leading source (57%) of shortening oil. Soy oil predominates in the production of margarine. The above utilization trend continues a stable trend over the years.

For the salad oil market, canola oil's nutritional properties allowed to increase its market share. Canola oil has the lowest saturated fat content (6%) of any edible oil, is second highest in monounsaturated fats (58%) and contains the highest level of the essential fatty acid, linoleic acid (10%). In 1986, the oil was awarded GRAS (Generally Recognized As Safe) status in the U.S., opening a potentially large market for the oil. In the next year, a pure canola oil product, *PURITAN OIL*, won the "Food Product of the Year" from the American

Health Foundation. The year following, this product was recognized by the American College of Nutrition by the awarding of "Product Acceptance Award".

Margarine oil experienced a dramatic increase in demand during the 1970's much of it at the expense of more traditional dairy products such as butter. Starting in the 1980's and continuing in the 1990's, this rate of growth for margarine decreased considerably due to a combination of factors: effective marketing strategies by the dairy industry, nutritional concerns on the part of consumers, increase in demand for "natural" foods and interest in gourmet cooking. For all these factors, butter has a higher quality image. In addition, provincial regulations in Ontario (dating from 1949) and Québec requiring distinctive coloration for margarine were more stringently enforced, particularly towards the end of the 1980's. The resultant product colour, white or brilliant yellow, in Canada's two highest populated provinces led to a relative stagnation in margarine sales. This in turn has led to negative effects on the soy oil market.

E ORGANIZATIONS

E1 CANOLA

The main industry organization for canola and canola products is the Canola Council of Canada (CCC), whose members include producers, exporters, government and the manufacturing and processing industries. The Council has as its objective "the advancement of canola and canola products worldwide." To accomplish this goal, the Canola Council undertakes a wide range of activities. On the international scene, CCC assists in the organization of incoming and outgoing missions, which have the objective of developing new markets and of providing technical support to established clients; sponsors technical seminars on such subjects as crushing of canola, feeding canola meal and trading aspects for canola products; collaborates with the Canadian International Grains Institute (CIGI) and other educational institutions in meeting domestic and international training activities; and participates in fairs, conferences and other major international oil industry events. Research activities include collaborating closely with the POS Pilot plant and other research institutions on applied research; administering, on behalf of Agriculture and Agri-Food Canada, the Canola Utilization Assistance Program which funds research in areas such as animal feed-

ing trials, human nutrition, processing and analytical methodology studies; and funding, the Canola Variety Development Program for the development of improved canola cultivars. On behalf of the Canadian canola industry, the CCC conducts market studies which assist in directing the above activities. Through its crop production program, the CCC actively researches and promotes the introduction of better agronomical practices to increase productivity at the farm level. The Canola Council's success is due principally to the unique blend of industry, producers, governments and the close cooperation between these diverse interests.

In each of the major producing provinces, there are canola growers organizations whose aims are to further the interests of the canola growers and the canola crop. These organizations are the Manitoba Canola Growers Association, the Saskatchewan Canola Growers Association (policy issues and an observer on the Canola Council of Canada), Saskatchewan Canola Development Commission, the Alberta Canola Producers Commission and the Ontario Canola Growers Association. All producer organizations have strong ties and take key membership roles in the Canola Council of Canada.

E2 SOYBEANS

The producer marketing organization for soybeans is the Ontario Soybean Growers' Marketing Board (OSGMB). Its objective is "to enhance the marketing of Ontario soybeans". The Board's powers include licensing producers, dealers and grain merchandisers and brokers; establishing license fees and negotiating with dealers and handlers charges for handling, cleaning and drying. The OSGMB has the power to purchase and sell soybeans but has not yet exercised this right. Minimum prices are not negotiable with buyers. Processors, crushers or brokers have agreed instead to pay to the producer the U.S. soybean price adjusting for quality, transport, handling, insurance and monetary exchange. The OSGMB negotiates the factors involved in these activities. All trading for the domestic, export and seed markets is done via private companies at current prices based on the price establishment methodology agreed to with the OSGMB.

The OSGMB provides several important services. On behalf of the producer, the Board gathers and disseminates market and price information. It administers the Advance Payment Program of Agriculture and Agri-Food Canada for producers meeting the Program's requirements. The OSGMB maintains marketing records from which it compiles an average price to the producers by crop year. It gathers the information from which federal and provincial stabilization payments are determined. The OSGMB promotes the use of soybeans and soy products domestically and in key markets abroad. Through the Board, producer funds are channeled into research for improved soybean varieties or for new uses, such as roasted beans for animal rations. Finally, the OSGMB is an active lobbyist of the federal and provincial governments on a variety of issues of concern to the industry.

E3 FLAXSEED

The flaxseed industry of Canada is organized under the Flaxseed Council of Canada, which represents producers, traders and crushers. The Council's main function is the advancement of flaxseed and flaxseed products worldwide as

well as acting as lobbyists for flaxseed interests with the federal and provincial governments.

The Flax Growers of Western Canada (FGWC) represents the interests of producers and the Flax Council of Canada (FCC) is the national body representing all sectors of the industry, including the growers (through the FGWC).

E4 CRUSHERS

The Canadian Oilseed Processors Association is a non-profit industry association which represents all of the oilseed processing companies in Canada. The Association was formed in 1992 by the amalgamation of the Canola Crushers of Western Canada and the Ontario Oilseed Industry Association. The Association's members include: ADM Agri-Industries Ltd., CanAmara Foods, Canbra Foods Ltd. and Northern Lite Canola Ltd.

The objectives of the Association include:

- » to promote the processing of oilseeds in Canada and the further processing of oilseed products into refined oil, protein meal and other finished products;
- » to provide a forum for the discussion and study of matters pertaining to the industry;
- » to broaden the scope of both domestic and export market opportunities for Canadian oilseed products;
- » to make recommendations and presentations to governmental bodies and other authorities on all matters pertaining to the industry; to promote research on oilseed products;
- » to maintain an authoritative centre of information;
- » to inform the public of the contribution of the Canadian oilseed crushing industry to the economy of Canada and
- » to inform the public of problems and policies in connection with the industry;
- » and to assist the members of the Association in maintaining effective relationships with all persons directly or indirectly involved in the oilseed processing industry in Canada.

F THE ENVIRONMENT

F1 DOMESTIC

The following domestic issues are concerns of the Canadian oilseed industry.

CROP AVAILABILITY

In Canada, oilseed production is variable due to two factors:

- » climatic deviations affect crop yields. In 1992, a North America wide cool, wet growing season resulted in reduced yields and reduced quality for all oil seed crops. Four years previously, in 1988, a drought reduced canola and soybean yields by 25 percent on average.
- » producers' independent plantings decisions affect the area planted to any one crop. Oilseeds must compete with a wide range of different crops and crop rotations. Producers tend to plant crop rotations indicating the best overall returns in the spring of the year. While in some years seed availability is tight, Canada's oilseed crops maintain reasonable planting and production levels.

These factors were a serious constraint in the Western crushing industry during the late 1970's and early 1980's. A more stable period of seed delivery occurred during the period between 1984 and 1987. Because of the drought in 1988, the Western crushing industry again found it difficult to obtain seed at prices that would yield a profitable crushing margin. The reasons for this situation are producers holding stocks for higher priced markets and international tariffs and subsidies combined with excess supplies of competing products. However, with recent changes in the European Community's assistance programs for agriculture products, Canadian crushers are able to purchase seed in volumes necessary to meet their operational needs. Therefore, in 1992, the effect of reduced seed availability proved to be of a lessor problem than in 1998. For soybeans, the closing in 1991 of a plant in Toronto aligned the crushing capacity and the amount of soybeans available for crushing.

POLICY CONSTRAINTS

Government transportation policies have a major effect on the performance of the oilseeds industry. Specifically,

freight rates of Western canola and its products have been the most debated.

The Western Grain Transportation Act (WGTA) regulates the statutory rates for canola products moving from Western Canada for export. Under the Act, existing export points are Thunder Bay/Armstrong, Ontario and Vancouver, British Columbia. The WGTA has replaced the old Crow's Nest Pass regime. Presently, the method of payment of WGTA benefits is under examination. The producer now pays only a portion of rail costs of moving his products to export position: the Government pays the other portion. Under consideration is a plan under which the Government's portion of the railway costs would be paid directly to producers. Producers would then be responsible for all costs of shipping products to export positions. Products moving into the United States are not eligible for WGTA benefits except for those products shipped via Thunder Bay, Ontario. In this case, the products are shipped to Thunder Bay under WGTA rates and then to the United States under commercial rates.

Minimum Compensatory Rates (MCRs) are regulated railway rates applied to Western canola oil and meal moving to points east of Thunder Bay/Armstrong, Ontario. Such rates were contentious as Eastern crushers (who, at the time of introduction, crushed only soybeans) felt that they were at a disadvantage. MCRs applied to canola products, which could enter the Eastern Canadian market and compete with soyoil. Eastern crushers argued that MCRs were not needed any more since Western canola products now move under the WGTA. They maintained that the elimination of MCRs would assist the Eastern oilseed industry sector in maintaining or regaining, for soyoil, a share of the domestic oil market. Soyoil's share declined sharply during the 1980's. Western Canadian crushers maintained that the continuation of these rates was essential for the competitiveness of their industry. They felt that they should not be disadvantaged by transportation rates due to their geographic location. The Western industry also felt that they should retain parity for transportation rates among seed, oil and meal.

By 1992, much of the above arguments became mute with a rationalization of the Canadian crushing industry (see page 8). The major process companies now span Canada and are vertically integrated. Oilseed products move from region to region to satisfy demand. MCR's may no longer be needed, but they are tied up in the overall transportation review mentioned earlier.

Provincial policies also have an important effect on the Canadian oilseed sector. The Ontario and Québec requirement for a distinctive colouring in margarine (white or deep yellow), which is unappetizing, negatively affects demand. For the portion of the industry in their jurisdiction, some provincial governments have policies that affect the competitiveness of the industry as a whole. This includes providing assistance to maintain the value-added sector of the industry.

STRUCTURAL CONSTRAINTS

A major constraint on the growth of the oilseed production sector has been the competition for planting area. In Western Canada oilseeds compete for area with cereals, grains and an expanding range of special crops. Canola has become a major part of most Western Canadian producers' crop rotation plans. With the industry rationalization in 1992, canola left its development stage to become a mature alternative. In Eastern Canada, where winter canola types are the varieties of choice, a significant amount of development is still required. Soybean is most adapted to Eastern Canadian growing conditions. However, new varieties are being introduced into Western Canada. Small acreages are present in Southern Manitoba and Alberta. New oilseed crops, which could supply niche markets, are under development. These crops, such as Sunola, Linola and safflower, are just being introduced as commercial alternatives. How these crops perform will depend on how they react to climatic conditions and how they meet the marketing expectations.

In general, acreage best suited to the production of canola is in the cooler, northern portions of Alberta, Manitoba or Saskatchewan. Canola forms an integral part of crop rotation requirements in this region. There is an inherent risk in extending the production area to less suitable, marginal, regions due to inadequate moisture, insufficient frost free period, excessive heat, or marginal soil conditions. However, new varieties, which are drought resistant, could lead in the expansion of canola's growing region. Proper rotation is essential for canola to prevent major losses due to diseases. Western Canada's canola acreage, after almost a decade of fluctuation, stabilized in the 1980's at a level of about 2.8 million hectares and increased to over 3 million hectares in the 1990's. Calculations indicate that with the current varieties, the optimum maximum acreage for canola is 3.5 hectares, which could be met in 1994. Current research initiatives are developing varieties with increased drought resistance which will expand the ideal acreage south from its current limit.

Soybeans form a primary part of crop rotation in Eastern Canada. There are also opportunities for the expansion of the

soybean acreage, particularly in Ontario and Québec. New varieties are continually being developed. The industry has developed a niche market for edible soybeans in Asia, particularly in Japan. This has provided for an alternative to the normal meal and oil uses. Acreage and production, subject to climatic conditions in Eastern Canada, has risen consistently over the last several years. The development of varieties requiring a shorter frost-free period and less heat units has led to the introduction of soybeans into southern Manitoba and Alberta.

The acreage and production of flaxseed (linseed), unlike other Canadian oilseeds, has declined during the 1980's. Until the 1990's, only one plant crushed only flaxseed; this plant closed early in the decade. Its closure was marked by the introduction of multiplant and multiseed crushing companies. The potential crushing capacity for flaxseed today is the highest ever seen, however, because of low demand for flaxseed oil, this capacity is being utilized for oilseeds, whose products have a higher demand. The domestic market for linseed oil (an industrial oil) and meal is limited. Flaxseed and its products are used in Europe, where there is a preference for buying seed and crushing it. In the early 1990's, this market almost disappeared because the production incentives was provided by the European Community. However, in 1993, the Community instigated reforms which reduced the incentives and, most likely, Canada start to become the supplier of flaxseed to the Community. Until there is a domestic market for linseed oil in North America, development of the sector will be limited.

Recent evidence indicates certain health benefits may be obtained from flaxseed oil. However, further testing is required before government approvals are received. Also, the industry is pursuing the use of linseed oil in concrete preservatives.

F2 INTERNATIONAL

The overall competitiveness of the domestic industry in the international market is under heavy pressure from a combination of factors. Many countries have high tariff and non-tariff barriers to protect their domestic industries. Other countries encourage production, which is exported, through subsidies, causing an overall increase in the world production of oilseeds. The recent Uruguay Round Final Act accord could be the first step in rationalizing these factors.

TARIFF AND NON-TARIFF BARRIERS

Tariff barriers are usually used to protect a portion of the domestic economy. Japan, Canada's major canola seed customer, has a high tariff of 17,000 yen per tonne (approximately 35%) on most edible oils which increases the Japanese oil prices by about \$160.00 per tonne above world price. This allows Japanese buyers of seed during times of low canola seed supplies to bid up the price of seed by about \$90.00 per tonne over what buyers without such tariff protection can pay. Canadian canola crushers are at a major disadvantage while canola producers reap a benefit from these high tariffs. In 1992, with the change in the method of payment of European Community assistance, the crushers in Europe also felt the effects of increased seed prices caused by this tariff.

Other countries may offer competing products a distinct advantage through differential tariffs. South Korea uses such a system. Their tariff on canola (rapeseed) is normally 35 percent compared with only 10 percent on soybeans. From time to time, South Korea implements temporary tariff reductions; however, this differential is maintained with tariffs usually set at 10 percent and 3 percent respectively. A similar differential exists between canola oil and soyoil. Such policies have detrimental effects on the overall competitiveness of the Canadian industry.

The conclusion of the Uruguay Round of GATT negotiations may improve market access for Canadian oilseed products. Starting in 1995, the agreement calls for average tariff reductions totaling 36% over the next six years.

Non-tariff barriers also exist to control the entry of products into a country. Examples of such barriers are preferential exchange rates, partial or total import bans and import quotas. Health, sanitary and phytosanitary regulation also affect imports. Before a product is accepted in most countries

as safe for human consumption, it must meet standards to protect human, animals or plant life and health. For example, the United States market for canola was very limited until GRAS (Generally Recognized as Safe) status was obtained in 1985. The granting of GRAS status for canola oil assisted in opening up the U.S. market for canola oil.

Canada is a strong advocate of creating a freer international trade regime in all major international fora. The Canada-U.S. Trade Agreement (CUSTA) was part of these continuing efforts by Canada. This agreement led to the elimination of tariffs on oilseeds, most edible oils and oilseed meals in January 1992. With the removal of these barriers combined with the rationalization of the crushing industry, Canadian edible oils, particularly canola oil, have gained a significant market share in the United States from health conscious consumers.

In 1992, the governments of Canada, the United States and Mexico negotiated a North American Free Trade Agreement (NAFTA). This accord was ratified by countries' legislative bodies and implemented January 1, 1994. Under this agreement, existing tariffs for oilseeds and oilseed products will be reduced to zero in equal installments over the next ten years.

Under CUSTA and NAFTA together, the total potential North American market under free trade is 376 million people.

SUBSIDIES

Export subsidies were a leading and most controversial problem in international trade in the 1980's. Under the Uruguay Round Final Act (URFA) GATT member nations will agree over six years beginning in 1995 to reduce export subsidies on agriculture products both by 21% of the volume of product assisted and by 36% of total expenditures in subsidies.

Processing subsidies are another factor affecting the development of markets of oilseeds and its products. In an effort to become self-sufficient in vegetable oils and oilseed meals, the European Community established a support system. Initially, subsidies were paid to the crushing sector for purchasing European Community grown oilseeds with the result that prices to EC oilseed producers were generally much higher than world price levels. The following calculations illustrate how the level of these subsidies distorted the cost/price relationship in the international commodities market. The method of comparison uses the production of Canadian canola and rapeseed grown in the European Community. In

Table 24:
EC-12
PRODUCTION OF MAJOR OILSEEDS

| | '000 tonnes | | | | |
|--------------------|---------------|---------------|---------------|---------------|---------------|
| | 1988-1989 | 1989-1990 | 1990-1991 | 1991-1992 | 1992-1993 |
| Soybeans | 1,660 | 1,794 | 1,926 | 1,494 | 1,294 |
| Cotton seed | 585 | 540 | 504 | 492 | 606 |
| Sunflower seed | 3,989 | 3,544 | 4,303 | 4,144 | 3,940 |
| Rapeseed | 5,602 | 5,393 | 6,257 | 7,434 | 6,217 |
| Linseed | 78 | 87 | 122 | 233 | 316 |
| Total (all) | 11,924 | 11,367 | 13,121 | 13,807 | 12,383 |

SOURCE: Oil World 1993

January 1988, total production costs (variable and fixed) for one tonne of canola in Canada were estimated by the Canola Council to be approximately C\$240. At January 1988 prices, this tonne was at C\$265 at the farm gate and at C\$305 Cargo, Insurance and Freight, Vancouver. Total production costs for one tonne of rapeseed in West Germany at that time were estimated to be around C\$530. The producer had a guaranteed minimum (intervention) price of C\$560 per tonne (340.81 ECU). The resulting surplus vegetable oil production was routed to the international market. Producers sell to the highest bidder at world market prices. The EC crushers no longer receive a processing subsidy and hence do not have an incentive to buy EC oilseeds. These processing payments compensate the seller for the difference between the nominal (high) price of the European Community rapeseed and the international market price of rapeseed/canola. While these figures are only approximate averages and subject to significant fluctuations, the general comparison gives an idea of the magnitude of the problem. This sharply influenced a rapid increase in European oilseed production during the early and mid 1980's and, consequently, a loss of that market for Canada and other exporting countries. (Table 15).

As a result of GATT panel decisions, which found against the Community, assistance is now paid directly to pro-

ducers of oilseeds. In 1992, with the poor Canadian canola crop, Japan began buying some European rapeseed at prices higher than the European crusher were willing to pay. Therefore, for the first time, the European crushers started to call for a reduction in the Japanese tariff.

U.S. oilseeds and products are exported under a variety of export programs. Most notably are the Export Enhancement Program (EEP), GSM-102 and GSM-103. Under EEP, U.S. exporters receive a per unit export subsidy or "bonus" which allows the exporter to compete in the international market. Under the Export Credit Guarantee Programs the U.S. government guarantees private bank loans at commercial interest rates for short-term (six months to three years) with GSM-102 and intermediate-term (three to ten years) with GSM-103. In both cases commodity and country eligibility is pre-determined by the US Department of Agriculture.

Other programs include Public Law 480, the Market Export Promotion Program (MPP) and the Sunflower Oil Assistance Program (SOAP) and the Cottonseed Oil Assistance Program (COAP). Some of these programs, particularly EEP, SOAP and COAP, could be reduced as a result of the URFA

APPENDIX "A"

**The Role of the Federal Government
in the Canadian Oilseed Industry**

THE ROLE OF THE FEDERAL GOVERNMENT

The federal government provides support for the oilseed sector at several levels.

Research

Agriculture Canada carries out basic research in its own research establishments. These facilities are involved in extensive plant breeding efforts to develop new oilseed varieties more adaptable to Canadian growing conditions and more competitive in the marketplace.

Transferring basic research to industry has been assisted by Agriculture Canada through the New Crop Development Program, now a part of Canadian Agri-Food Market Initiative. Assistance is available for the development of new crops or varieties; testing crops or varieties not grown in a geographical area and for demonstrating the commercial potential of crops and varieties to a region.

The POS Pilot Plant in Saskatoon, jointly funded by government and industry, is a food research and technology facility. The facility bridges the gap between basic laboratory research and industry's new product and process technology implementation.

These efforts are in addition to those made by industry associations, the Canola Council of Canada and the Ontario Soybean Growers Marketing Board. Such organizations provide financial assistance to research projects, which will enhance the marketability of their products. Universities and provincial governments and the private sector also provide a vital link in these endeavors.

Regulation

The Canadian Grain Commission, under the authority of the Canada Grain Act, establishes grade standards for oilseeds. These standards are monitored basically through moisture content and visual inspections for compliance with maximum tolerances of immature, damaged or treated seed and admixtures according to grade. In addition, the Commission monitors non-visual characteristics, such as oil and protein content.

The Canadian General Standards Board (CGSB), accredited by the Standards Council of Canada, develops and offers the National Standards of Canada. There are two Standards for canola products, oil and meal. The Standards form the basis for the specifications determining the primary grades of oil and the minimum quality criteria for protein meal and meal pellets. Also, protein meals must comply with the Feeds Act and Regulations. The National Standards of Canada are a voluntary set of tolerances and specifications developed in the national interest.

Marketing

The federal government assists provincial and sectorial organizations and private industry marketing efforts at all levels. Incoming and outgoing missions are coordinated to visit potential markets or to bring potential buyers to Canada. Other forms of assistance are addressed as the need arises. To receive such assistance, the oilseed sector organizations (see section E) prepare a sectorial marketing strategy for the Agriculture Industry Marketing Strategy (AIMS). The objective of the AIMS process is to encourage Canadian agri-food sectors to develop and implement market responsive strategies that increase the sales of agri-food products and serve as a framework for industry/government collaboration.

Federal officials are involved in negotiating access and reducing tariff and non-tariff barriers in foreign markets. Examples of such activities are the federal role in current GATT negotiations and in negotiating and monitoring the Canadian-United States Trade Agreement. Officials of Department of Foreign Affairs and International Trade, Canadian Embassies and other departments are engaged in market research, in monitoring market developments and in keeping abreast of potential opportunities for products. This information is disseminated to industry. Finally, the federal government is also involved in extensive data gathering and publishing of statistical information to assist the industry in their policy and marketing decisions. Ongoing liaison with the oilseed industry is vital.

APPENDIX "B"

Oilseed industry Directory

Industry Associations

Alberta Canola Producers Commission

170 - 14315 118th Avenue
Edmonton, Alberta
Canada
T5L 4S6

Tel: (403) 454-0844
Fax: (403) 451-6933

Canadian Feed Industry Association

625 - 325 Dalhousie Street
Ottawa, Ontario
Canada
K1N 7G2

Tel: (613) 238-6421
Fax: (613) 238-6620

Canadian Canola Growers Council

Box 186
Eckville, Alberta
Canada
T0M 0X0

Tel: (204) 745-2256
Fax: (204) 745-6134

Canadian Oilseeds Processors Association

1030 - 360 Main Stret
Winnipeg, Manitoba
Canada
R3C 3Z3

Tel: (204) 942-3408
Fax: (204) 956-4498

Canola Council of Canada

400 - 167 Lombard Avenue
Winnipeg, Manitoba
Canada
R3B 0T6

Tel: (204) 982-2100
Fax: (204) 942-1841

Flax Council of Canada

165 - 167 Lombard Avenue
Winnipeg, Manitoba
Canada
R3B 0T6

Tel: (204) 982-2115
Fax: (204) 942-1841

Flax Growers of Western Canada

P.O. Box 832
Regina, Saskatchewan
Canada
S4P 3B1

Tel: (306) 781-7475
Fax: (306) 525-4173

Manitoba Canola Growers Association

P.O. Box 20067
Brandon South P.O.
Brandon, Manitoba
Canada
R7A 6Y8

Tel: (204) 729-8776
Fax: (204) 729-8776

Ontario Canola Growers Association

137 Inkerman Street W.
Listowel, Ontario
Canada
N4W 1B8

Tel: (519) 291-4811
Fax: (519) 291-5111

Ontario Grain and Feed Association

106 - 1400 Bishop Street
Cambridge, Ontario
Canada
N1R 6W8

Tel: (519) 622-3800
Fax: (519) 622-3590

Ontario Soybean Growers' Marketing Board

P.O. Box 1199
Chatham, Ontario
Canada
N7M 5L8

Tel: (519) 352-7730
Fax: (519) 352-8983

OILSEEDS SECTOR PROFILE

Prairie Pools Inc.

724 - 90 Sparks Street
Ottawa, Ontario
Canada
K1P 5B4

Tel: (613) 594-4976

Fax: (613) 232-7043

Saskatchewan Canola Growers Association

210 - 111 Research Drive
Saskatoon, Saskatchewan
Canada
S7N 3R2

Tel: (306) 668-2380

Fax: (306) 975-1126

The Shippers & Exporters Association

500 - 360 Main Street
Winnipeg, Manitoba
Canada
R3C 3Z4

Tel: (204) 949-0495

Fax: (204) 943-5448

Saskatchewan Canola Development Commission

102A - 111 Research Drive
Saskatoon, Saskatchewan
Canada
S7N 3R2

Tel: (306) 975-0262

Fax: (306) 975-0136

Oilseed Processing Companies

ADM Agri-Industries Limited

5550 Maplewood Drive
Windsor, Ontario
Canada
N9C 4G9

Tel: (519) 972-8100

Fax: (519) 966-7135

PRODUCTS: soybeans, oil & meal and
canola seed, oil & meal

CanAmara Foods

2190 South Service Road West
Oakville, Ontario
Canada
L6L 5N1

Tel: (905) 825-7900

Fax: (905) 847-8843

PRODUCTS: canola oil & meal; soybean oil &
meal; linseed oil & meal;
sunflower seed oil & meal and
packaged & bulk animal fats,
vegetable oils & lauric oils

Canbra Foods Ltd

P.O. Box 99
Lethbridge, Alberta
Canada
T1J 3Y4

Tel: (403) 329-5500

Fax: (403) 327-3887

PRODUCTS: canola oil (packaged & bulk) and
canola meal

Northern Lite Canola Limited

P.O. Box 2930
Sexsmith, Alberta
Canada
T0H 3C0

Tel: (403) 568-3737

Fax: (403) 568-2900

PRODUCTS: canola oil & meal

Oilseed Sector Trading Companies

AgPro Grain Incorporated

1504 - 201 Portage Avenue
Winnipeg, Manitoba
Canada
R3B 3K6

Tel: (204) 942-2470

Fax: (204) 949-0936

PRODUCTS: canola seed, flaxseed

Alberta Wheat Pool

P.O. Box 2700
Calgary, Alberta
Canada
T2P 2P5

Tel: (403) 290-4910

Fax: (403) 290-55508

PRODUCTS: canola seed, flaxseed,
mustard seed and safflower seed

Alfred C. Toepfer (Canada) Limited

709 - 167 Lombard Avenue
Winnipeg, Manitoba
Canada
R3B OV3

Tel: (204) 925-0468

Fax: (204) 956-0282

PRODUCTS: canola seed and meal, flaxseed

Benson-Quinn Company

415 - 360 Main Street
Winnipeg, Manitoba
Canada
R3C 3Z3

Tel: (204) 982-7947

Fax: (204) 942-8077

PRODUCTS: canola seed, flaxseed

Best Foods Canada (1991) Inc.

401 The West Mall
Etobicoke, Ontario
M9C 5H9

Tel: (416) 620-3551

Fax: (416) 620-2385

PRODUCTS: consumer packaged products

Bigros Incorporated

3820 Leitrim Road
Gloucester, Ontario
Canada
K1G 3N4

Tel: (613) 822-7108

Fax: (613) 822-7137

PRODUCTS: canola oil (bottled)

Canagrains International

1750 - 409 Granville Street
Vancouver, British Columbia
Canada
V6C 1E8

Tel: (604) 684-9988

Fax: (604) 684-8031

PRODUCTS: canola seed, oil and meal;
flaxseed, mustard seed

Cargill Limited

1620 - 1066 West Hastings Street
Vancouver, British Columbia
Canada
V6E 3X1

Tel: (604) 683-6531

Fax: (604) 683-1094

PRODUCTS: canola seed, flaxseed,
mustard seed, sunflower seed

Chatham Beans '66 Limited

97 Centre Street
Chatham, Ontario
Canada
N7M 4W3

Tel: (519) 352-7500

Fax: (519) 352-7471

PRODUCTS: soybeans (food use)

OILSEEDS SECTOR PROFILE

Continental Grain Company (Canada) Ltd.

Suite 1750 - 409 Granville Street
Vancouver, British Columbia
Canada
V6C 1E8

Tel: (604) 684-7292

Fax: (604) 684-8031

PRODUCTS: soybeans, canola seed, flaxseed,
mustard seed

Christie Brown & Co.

Nabisco Brands Ltd.
2150 Lake Shore Boulevard
Etobicoke, Ontario
M8V 1A3

Tel: (416) 503-6000

Fax: (416) 503-6034

PRODUCTS: consumer packaged products

Dah Chong Hong (Canada) Limited

4211 No. 3 Road
Richmond, British Columbia
Canada
V6X 2C3

Tel: (604) 278-8222

Fax: (604) 273-9222

PRODUCTS: soybeans (food use), canola oil,
sunflower seed oil

Hazzard Farm Service Limited

R.R. No. 5
Wallaceburg, Ontario
Canada
N8A 4L2

Tel: (519) 627-1491

Fax: (519) 627-2990

PRODUCTS: soybeans (food use)

Itochu Canada Limited

Suite 770 - 999 Canada Place
Vancouver, British Columbia
Canada
V6C 3E1

Tel: (604) 683-5764

Fax: (604) 688-9293

PRODUCTS: canola, flaxseed, soybeans

James Richardson and Sons

25th Floor - One Lombard Place
Winnipeg, Manitoba
Canada
R3B 0Y1

Tel: (204) 934-5627

Fax: (204) 956-0287

PRODUCTS: canola seed, oil & meal; soybeans,
soy oil & soy meal; flaxseed;
mustard seed; sunflower seed and
safflower seed

Kraft General Foods Canada Ltd

Suite 200, 333 Place Cavendish
St. Laurent, PQ
H4H 2Y2

Tel: (514) 856-5079

Fax: (514) 856-5049

PRODUCTS: consumer packaged products

Lucerne Foods Ltd.

7280 Fraser Street
P.O. Box 8300 (Main)
Vancouver, B.C.
V6B 4E9

Tel: (604) 322-555

Fax: (604) 322-2550

PRODUCTS: consumer packaged products

Louis Dreyfus Canada Limited

1690 - 360 Main Street
Winnipeg, Manitoba
Canada
R3C 3Z3

Tel: (204) 943-3546

Fax: (204) 944-1307

PRODUCTS: soybeans, canola seed & meal,
flaxseed

Malchy Grain Company Limited

975 - 167 Lombard Avenue
Winnipeg, Manitoba
Canada
R3B 0V3

Tel: (204) 944-9328

Fax: (204) 947-2271

PRODUCTS: canola seed & meal, flaxseed and
safflower seed

OILSEEDS SECTOR PROFILE

Manitoba Pool Elevators

P.O. Box 9800
Winnipeg, Manitoba
Canada
R3C 3K7

Tel: (204) 947-1171
Fax: (204) 942-0570

PRODUCTS: canola seed, flaxseed,
mustard seed and sunflower seed

Mitsubishi Canada Limited

28th Floor, 200 Granville Street
Vancouver, British Columbia
Canada
V6C 1G6

Tel: (604) 654-8000
Fax: (604) 654-3513

PRODUCTS: canola seed, oil & meal; flaxseed;
soybeans (food use);
sunflower seed oil; safflower seed
and mustard seed

Mitsui & Company (Canada) Limited

3200 - 1055 Dunsmuir Street
P.O. Box 49046
Vancouver, British Columbia
Canada
V7X 1E6

Tel: (604) 668-3100
Fax: (604) 668-3122

PRODUCTS: canola seed, oil & meal; flaxseed;
and soybeans (oil and food use),
oil and meal

N.M. Patterson & Sons Limited

609 - 167 Lombard Avenue
Winnipeg, Manitoba
Canada
R3B 0V5

Tel: (204) 956-2090
Fax: (204) 947-2386

PRODUCTS: canola seed, flaxseed,
mustard seed, sunflowerseed and
safflower seed

Northern Sales Company Limited

135 Lombard Street
Winnipeg, Manitoba
Canada
R3B 0T4

Tel: (204) 949-1456
Fax: (204) 957-0350

PRODUCTS: canola seed & oil, flaxseed,
mustard seed, sunflower seeds &
oil, sunola seed and soybeans,
oil & meal

Parrish & Heimbecker Limited

700 - 360 Main Street
Winnipeg, Manitoba
Canada
R3C 3Z3

Tel: (204) 956-2030
Fax: (204) 943-8233

PRODUCTS: canola seed & meal, soybeans & meal,
flaxseed and linseed meal

Pioneer Grain Company Limited

25th Floor, One Lombard Place
Winnipeg, Manitoba
Canada
R3B 0X8

Tel: (204) 934-5961
Fax: (204) 943-5448

PRODUCTS: canola seed, oil & meal; soybeans, oil
& meal; flaxseed, mustard seed;
sunflower seed and safflower seed

Procter & Gamble Inc.

Box 355, Station "A"
Toronto, Ontario
M5W 1C5

Telephone: (416) 730-4459
Facsimile: (416) 730-4281

PRODUCTS: consumer packaged products

Range Grain Company Limited

960 - 360 Main Street
Winnipeg, Manitoba
Canada
R3C 3Z3

Tel: (204) 943-6407
Fax: (204) 947-0677

PRODUCTS: canola seed and flaxseed

OILSEEDS SECTOR PROFILE

Saskatchewan Wheat Pool

2625 Victoria Avenue
Regina, Saskatchewan
Canada
S4T 7T9

Tel: (306) 569-4411
Fax: (306) 569-4708

PRODUCTS: canola seed, oil & meal; flaxseed;
 mustard seed and sunflower seed, oil
 & meal

Stow-Agro

Unit 505, 177 Lombard Ave.
Winnipeg, Manitoba
Canada
R3B 0W5

Tel: (204) 982-5700
Fax: (204) 943-4012

PRODUCTS: canola seed and flaxseed

Sumitomo Canada Limited

1900 - 777 Dunsmuir Street
P.O. Box 10141, Pacific Centre
Vancouver, British Columbia
Canada
V7X 1R4

Tel: (604) 691-6000
Fax: (604) 691-6002

PRODUCTS: canola seed and flaxseed

United Grain Growers Limited

P.O. Box 6600
Winnipeg, Manitoba
Canada
R3C 3A7

Tel: (204) 944-5411
Fax: (204) 944-5454

PRODUCTS: flaxseed, canola seed, sunflower seed
 and mustard seed

W.G. Thompson & Sons Limited

Box 250
Blenheim, Ontario
Canada
N0P 1A0

Tel: (519) 676-5411
Fax: (519) 676-3185

PRODUCTS: soybeans (oil and food use)

Western Grower Seed Corporation

B1 - 116 103 Street
Saskatoon, Saskatchewan
Canada
S7N 1H7

Tel: (306) 373-2400
Fax: (306) 373-2402

PRODUCTS: sunola seed

XCAN Grain Pool Limited

1200 - 201 Portage Avenue
Winnipeg, Manitoba
Canada
R3B 3K6

Tel: (204) 949-4500
Fax: (204) 949-1057

PRODUCTS: canola seed & meal, flaxseed,
 sunflower seed, mustard seed and
 safflower seed

Research/Educational Institutions

POS Pilot Plant Corporation

118 Veterinary Road
Saskatoon, Saskatchewan
Canada
S7N 2R4

Tel: (306) 975-7066
Fax: (306) 975-3766

Canada Grains Council

760 - 360 Main Street
Winnipeg, Manitoba
Canada
R3C 3Z3

Tel: (204) 942-2254
Fax: (204) 947-0992

Canadian International Grains Institute

1000 - 303 Main Street
Winnipeg, Manitoba
Canada
R3C 3G7

Tel: (204) 983-5344
Fax: (204) 983-2642

University of Alberta

Edmonton, Alberta
T6G 2E3

University of Saskatchewan

Saskatoon, Saskatchewan
S7N 0W0

University of Manitoba

631 - 181 Freedman Crescent
Winnipeg, Manitoba
Canada
R3T 2N2

Tel: (204) 474-9842
Fax: (204) 275-0831

University of Toronto

200 College Street
Toronto, Ontario
Canada
M5S 1A4

Government

Alberta Department of Agriculture

7000 - 113 Street
Edmonton Alberta
T6H 5T6

Tel: (403) 427-4241

Canadian Grain Commission

600 - 303 Main Street
Winnipeg, Manitoba
Canada
R3C 3G8

Tel: (204) 983-2735

Fax: (204) 983-2751

Manitoba Department of Agriculture

916 - 401 York Avenue
Winnipeg, Manitoba
R3C 0V8

Tel: (204) 945-4491

Oilseeds Division

International Markets Bureau
Market and Industry Services Branch
Agriculture Canada
930 Carling Avenue
Ottawa, Ontario
K1A 0C5

Tel: (613) 996-8324

Fax: (613) 943-1905

**Ministère de l'Agriculture, des Pêcheries
et de l'alimentation**

Direction de la commercialisation
201 Crémazie Blvd.
Montréal, Québec
H2M 1L4

Tel: (514) 873-4410

Fax: (514) 873-2364

Ontario Ministry of Agriculture and Food

801 Bay Street
Toronto, Ontario
M7A 2B2

Tel: (416) 326-3400

Saskatchewan Department of Agriculture

Walter Scott Building
3085 Albert Street
Regina, Saskatchewan
S4S 0B1

Tel: (306) 787-4674

Fax: (306) 787-0428

Others

Export Development Corporation

151 O'Connor Street
Ottawa, Ontario
Canada
K1A 1K3

Tel: (613) 598-2700
Fax: (613) 598-2705

Institute Of Edible Oil Foods

301 - 885 Don Mills Road
Don Mills, Ontario
Canada
M3C 1V9

Tel: (416) 510-8036
Fax: (416) 510-8044

Winnipeg Commodity Exchange

500 - 360 Main Street
Winnipeg, Manitoba
Canada
R3C 3Z4

Tel: (204) 949-0495
Fax: (204) 943-5448

ORDER FORM

If you require additional copies of Oilseeds Sector Profile, please complete the following form and mail it to:

Oilseeds Division
International Markets Bureau
Market and Industry Services Branch
Agriculture Canada
930 Carling Avenue
Ottawa, Ontario
K1A 0C5

OILSEEDS SECTOR PROFILE

NAME: _____

COMPANY: _____

ADDRESS: _____

CITY: _____

PROVINCE/STATE: _____

COUNTRY: _____

POSTAL CODE: _____

PHONE: _____ FAX: _____

TYPE OF BUSINESS: _____

NUMBER REQUIRED:

ENGLISH

FRENCH

